



September 20, 2012

Brad Davis
Zia Engineering & Environmental
755 S Telshor Blvd Ste F-201
Las Cruces, NM 88011
TEL: (575) 993-6824
FAX (575) 532-1587

Order No.: 1209014

RE: HELSTF Construction Landfill

Dear Brad Davis:

DHL Analytical received 6 sample(s) on 9/5/2012 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of DoD QSM Ver 4.2 and NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. This report shall not be reproduced except in full without the written approval of DHL Analytical, Inc. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in blue ink that appears to read "John DuPont" followed by a date "09/20/12".

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas & DoD Laboratory
Certification Number: T104704211-12-8 & DoD ELAP #ADE-1416 v2



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Zeta
engineering
environmental
consultants

756 S. Telstar Blvd. Ste. F-201
Las Cruces, NM 88011
575-532-1526 II
575-532-1581 F

CHAIN OF CUSTODY RECORD

#1209014

PAGE 1 OF 1

PLEASE USE BALL POINT PEN

DISTRIBUTION: WHITE - PROJECT FILES; YELLOW - LAB; PINK - FIELD COPY

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575-532-1526 u
575-532-1581 f

CHAIN OF CUSTODY RECORD

#1209014

PAGE 1 OF 1

PROJECT NO.	PROJECT NAME <i>HELSF Construction Landfill</i>					NO. OF CONTAINERS	ANALYSIS REQUESTED					REMARKS		
SAMPLER'S SIG/NATURE	<i>Bradley T. Davis</i>						TOC	VOCs	SVOC's	TDR/GRO	Total metals		disolved metals	Anions
DATE	TIME	SAMPLE ID	MATRIX	LAB NO.	10	X X X X X X X X							Equipment Blank	
04	9-4-12	1330	HLSF-3839-RB-001-0912	Water	2	X								trip Blank
05	9-4-12	1330	HLSF-3839-RB-001-0912-TB	Water	16	X X X X X X X X								
06	9-4-12	1500	HLSF-3839-RMW-059-0912	Water										
														<i>metals = As, Ba, Cd, Cr, Pb, Se, Ag, Na, Ca, K, Mg, Hg</i>
														<i>Anions = Sulfate, pH, Chloride, Alkalinity</i>
PROJECT INFORMATION		SAMPLES RECEIVED		(yes)	1. RELINQUISHED BY: (SIG/NATURE) <i>Bradley T. Davis</i>	(PRINTED NAME) <i>Bradley T. Davis</i>	2. RELINQUISHED BY: (SIG/NATURE) <i>Jedey</i>	(PRINTED NAME) <i>Jedey</i>	3. RECEIVED BY LAB: (SIG/NATURE)					
PROJECT MANAGER <i>Bradley Davis</i>		TOTAL NO. OF CONTAINERS			RECEIVED BY: (SIG/NATURE)	RECEIVED BY: (SIG/NATURE)			(COMPANY)					
SHIPPING ID NO.		CHAIN OF CUSTODY SEALS		4.0	RECEIVED BY: (SIG/NATURE) <i>Jedey</i>	(TIME/DATE) <i>9/4/12</i>	RECEIVED BY: (SIG/NATURE) <i>Jedey</i>	(TIME/DATE) <i>9/4/12 815</i>	(TIME/DATE)					
W/M: <i>Fed EX</i>		GOOD CONDITION/CHILLED <i>Thermos</i>		4.0	SPECIAL INSTRUCTIONS/COMMENTS: <i>RB - Equipment Blank</i>									
CONFORMS TO RECORD														

From: (505) 532-1526
Zia Engineering

Origin ID: LRU A

755 S. Telshor Blvd.
Suite Q-201
Las Cruces, NM 88011



Ship Date: 04SEP12
ActWgt: 65.0 LB
CAD: 102287640/INET3300

SHIP TO: (512) 388-8222
John Dupont
DHL Analytical
2300 DOUBLE CREEK DR

BILL SENDER

ROUND ROCK, TX 78664

Delivery Address Bar Code



Ref# LCS-09-015
Invoice #
PO #
Dept #

1 of 2

WED - 05 SEP A1
PRIORITY OVERNIGHT

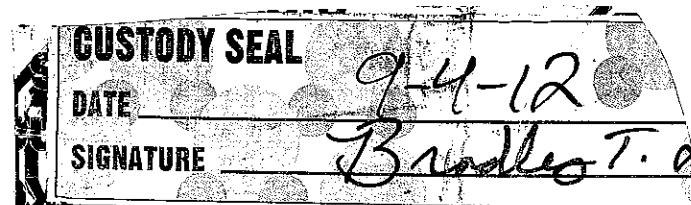
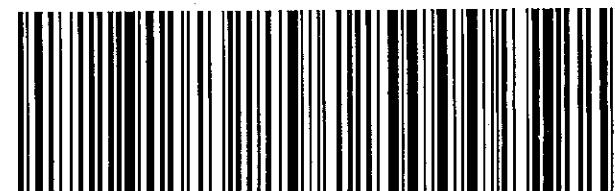
TRK#, 7988 8888 6999

0201

MASTER

78664
TX-US
AUS

XH BSMA



From: (505) 532-1526
Zia Engineering

Origin ID: LRU A



J12201207160325

755 S. Telshor Blvd.
Suite Q-201
Las Cruces, NM 88011

Ship Date: 04SEP12
ActWgt: 65.0 LB
CAD: 102287640/INET3300

SHIP TO: (512) 388-8222

BILL SENDER

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DHL Analytical
2300 DOUBLE CREEK DR

ROUND ROCK, TX 78664

Delivery Address Bar Code



Ref # LCS-09-015
Invoice #
PO #
Dept #

2 of 2

WED - 05 SEP A1
PRIORITY OVERNIGHT

MPS# 7988 8888 6841

0263

Mstr# 7988 8888 6999

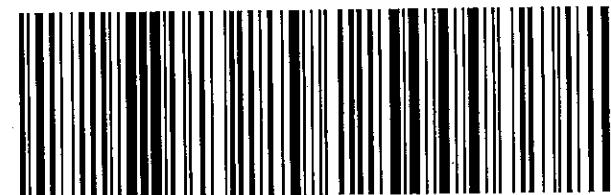
0201

78664

TX-US

AUS

XH BSMA



CUSTODY SEAL

DATE

9-4-12

SIGNATURE

Brady T-A

QEC

Quality Environmental Containers
800-255-3950 • 304-255-3900

DHL Analytical

Sample Receipt Checklist

Client Name Zia Engineering & Environmental

Date Received: 9/5/2012

Work Order Number 1209014

Received by JB

Checklist completed by: 
Signature

9/5/2012

Date

Reviewed by: 

9/5/2012

Initials

Date

Carrier name: FedEx 1day

Shipping container/cooler in good condition? Yes No Not Present

Custody seals intact on shipping container/cooler? Yes No Not Present

Custody seals intact on sample bottles? Yes No Not Present

Chain of custody present? Yes No

Chain of custody signed when relinquished and received? Yes No

Chain of custody agrees with sample labels? Yes No

Samples in proper container/bottle? Yes No

Sample containers intact? Yes No

Sufficient sample volume for indicated test? Yes No

All samples received within holding time? Yes No

Container/Temp Blank temperature in compliance? Yes No 1.6 °C, 4.0

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No Not Applicable

Adjusted? NO Checked by 

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: One amber bottle is transit for sample
HSLF-3839-18nw-0032-0912. Still have sufficient
amount to run analysis.

Corrective Action _____

DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: HELSTF Construction Landfill		Date: 9/20/2012					
Reviewer Name: Angie O'Donnell		Laboratory Work Order: 1209014					
Prep Batch Number(s): See Prep Dates Report		Run Batch: See Analytical Dates Report					
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-Custody (C-O-C) 1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt? 2) Were all departures from standard conditions described in an exception report?	X				R1-01
R2	OI	Sample and Quality Control (QC) Identification 1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers? 2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test Reports 1) Were all samples prepared and analyzed within holding times? 2) Other than those results < MQL, were all other raw values bracketed by calibration standards? 3) Were calculations checked by a peer or supervisor? 4) Were all analyte identifications checked by a peer or supervisor? 5) Were sample quantitation limits reported for all analytes not detected? 6) Were all results for soil and sediment samples reported on a dry weight basis? 7) Were % moisture (or solids) reported for all soil and sediment samples? 8) If required for the project, TICs reported?	X				
R4	O	Surrogate Recovery Data 1) Were surrogates added prior to extraction? 2) Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	Test Reports/Summary Forms for Blank Samples 1) Were appropriate type(s) of blanks analyzed? 2) Were blanks analyzed at the appropriate frequency? 3) Where method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures? 4) Were blank concentrations < MQL?	X				R5-04
R6	OI	Laboratory Control Samples (LCS): 1) Were all COCs included in the LCS? 2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps? 3) Were LCSs analyzed at the required frequency? 4) Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits? 5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs? 6) Was the LCSD RPD within QC limits (if applicable)?	X				R6-04
R7	OI	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Data 1) Were the project/method specified analytes included in the MS and MSD? 2) Were MS/MSD analyzed at the appropriate frequency? 3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits? 4) Were MS/MSD RPDs within laboratory QC limits?	X				R7-03
R8	OI	Analytical Duplicate Data 1) Were appropriate analytical duplicates analyzed for each matrix? 2) Were analytical duplicates analyzed at the appropriate frequency? 3) Were RPDs or relative standard deviations within the laboratory QC limits?	X				R7-04
R9	OI	Method Quantitation Limits (MQLs): 1) Are the MQLs for each method analyte included in the laboratory data package? 2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard? 3) Are unadjusted MQLs included in the laboratory data package?	X				
R10	OI	Other Problems/Anomalies 1) Are all known problems/anomalies/special conditions noted in this LRC and ER? 2) Were all necessary corrective actions performed for the reported data? 3) Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	X				R10-01

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

3 NA = Not applicable.

4 NR = Not Reviewed.

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

DHL Analytical, Inc.
Laboratory Review Checklist (continued): Supporting Data

Project Name: HELSTF Construction Landfill

Date: 9/20/2012

Reviewer Name: Angie O'Donnell

Laboratory Work Order: 1209014

# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
S1	OI	Initial Calibration (ICAL)					
		1) Were response factors and/or relative response factors for each analyte within QC limits?	X				
		2) Were percent RSDs or correlation coefficient criteria met?	X				
		3) Was the number of standards recommended in the method used for all analytes?	X				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		5) Are ICAL data available for all instruments used?	X				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	X				S1-06
S2	OI	Initial and Continuing calibration Verification (ICCV and CCV) and Continuing Calibration blank (CCB)					
		1) Was the CCV analyzed at the method-required frequency?	X				
		2) Were percent differences for each analyte within the method-required QC limits?		X			S2-02
		3) Was the ICAL curve verified for each analyte?	X				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				S2-04
S3	O	Mass Spectral Tuning					
		1) Was the appropriate compound for the method used for tuning?	X				
		2) Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal Standards (IS)					
		1) Were IS area counts and retention times within the method-required QC limits?		X			S4-01
S5	OI	Raw Data (NELAC section 1 appendix A glossary, and section 5.12)					
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		2) Were data associated with manual integrations flagged on the raw data?	X				S5-02
S6	O	Dual Column Confirmation					
		1) Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively Identified Compounds (TICs)					
		1) If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) Results					
		1) Were percent recoveries within method QC limits?	X				
S9	I	Serial Dilutions, Post Digestion Spikes, and Method of Standard Additions					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?		X			S9-01
S10	OI	Method Detection Limit (MDL) Studies					
		1) Was a MDL study performed for each reported analyte?	X				
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency Test Reports					
		1) Was the lab's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards Documentation					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/Analyte Identification Procedures					
		1) Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of Analyst Competency (DOC)					
		1) Was DOC conducted consistent with NELAC Chapter 5C?	X				
		2) Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/Validation Documentation for Methods (NELAC Chap 5)					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory Standard Operating Procedures (SOPs)					
		1) Are laboratory SOPs current and on file for each method performed?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

3 NA = Not applicable.

4 NR = Not Reviewed.

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Signature Page

This data package consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Items consistent with NELAC 5.13
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- R10 Other problems or anomalies.

The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

John DuPont – General Manager

Scott Schroeder – Technical Director



Signature

9/20/12

Date

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Lab Order: 1209014

CASE NARRATIVE

This case narrative describes abnormalities and deviations that may affect the results and summarizes all known issues that need to be highlighted for the data user to assess the results. This case narrative and the report contents are compliant with DoD QSM Ver 4.2 and NELAC.

Samples were analyzed using the methods outlined in the following references:

Method SW6020 - Metals Analysis (Total and Dissolved)
Method SW7470A - Mercury Analysis (Total and Dissolved)
Method M8015D - DRO Analysis
Method M8015V - GRO Analysis
Method SW8260C - Volatile Organics
Method SW8270D - Semivolatile Organics (Some compounds are not NELAC Certified)
Method E300 - Anions Analysis
Method M4500-H+ B - pH of a Water
Method M2320 B - Alkalinity Analysis
Method M5310 C - TOC Analysis

Exception Report R1-01

The samples were received on and log-in performed on 9/5/2012. A total of 6 samples were received and analyzed. An amber container for Sample HLSF-3839-HMW-032-0912 was broken in transit. There was sufficient sample volume to proceed with analysis. The remaining samples arrived in good condition and were properly packaged.

Exception Report R5-04

For Semivolatiles Analysis, Benzoic acid was detected below the reporting limit for Method Blank-53747, due to laboratory contamination. Samples HLSF-3839-HMW-032-0912 and HLSF-3839-RB-001-0912 may be biased high for this compound. No further corrective action was taken.

Exception Report R6-04

For Semivolatiles Analysis, the recoveries of Benzidine and Dimethylphenethylamine for the Laboratory Control Spike (LCS-53747) were below the method control limits. These are flagged accordingly in the QC Summary report. These compounds were within method control limits in the associated LCS. No further corrective actions were taken.

Exception Report R7-03 and R7-04

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Lab Order: 1209014

CASE NARRATIVE

For Dissolved/Trace Metals Analysis, batches 53814 and 53793, the recoveries of several analytes for the Matrix Spike and Matrix Spike Duplicate (1209014-01 MS/MSD) were outside of the method control limits. These are flagged accordingly in the QC Summary report. These analytes were within method control limits in the associated LCS. The reference samples selected for the matrix spike and matrix spike duplicate(s) were from this work order. No further corrective actions were taken.

For Volatiles Analysis, the recovery of 2-Chloroethylvinylether for the Matrix Spike and Matrix Spike Duplicate (1209014-01 MS/MSD) was outside of the method control limits. These are flagged accordingly in the QC Summary report. This compound was within method control limits in the associated LCS. The reference sample selected for the matrix spike and matrix spike duplicate was from this work order. No further corrective actions were taken.

For Semivolatiles Analysis, the recoveries and RPD's of two compounds for the Matrix Spike Duplicate (1209014-01 MSD) were outside of the method control limits. These were flagged accordingly the QC Summary report. These compounds were within method control limits in the associated ICV/MS. No further corrective action was taken.

Exception Report R10-01

For Trace and Dissolved Metals Analysis, batches 53814 and 53793, the results of a few analytes for Samples HLSF-3839-HMW-032-0912 and HLSF-3839-HMW-059-0912 showed results for analytes as slightly higher than results of the total analytes. The results were within acceptable analytical variation limits.

For TOC Analysis, the samples were diluted due to nature of matrix. No further corrective action was taken.

For TOC Analysis, the reference sample selected for the Matrix Spike and Matrix Spike Duplicate (1209022-03 MS/MSD) was from Client's WO # 1209022. Sample volume was consumed during prior analysis.

Exception Report S1-06

For Volatiles Analysis, the recovery of Bromomethane for the Second Source Calibration Verification was slightly below the method control limits as specified in DoD QSM (80-120%). The associated samples are nondetect for this compound. No further corrective action was taken.

For Semivolatiles Analysis, the recovery of Benzidine for the Second Source Calibration Verification was slightly below the method control limits as specified in DoD QSM (80-120%). The associated samples are nondetect for this compound. No further corrective action was taken.

Exception Report S2-02

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Lab Order: 1209014

CASE NARRATIVE

For Volatiles Analysis, the recoveries of two compounds for the Initial Calibration Verification (ICV-120910) were slightly above the method control limits specified in SW8260C (80-120% recovery). These are flagged accordingly in the QC Summary report. The number of target analytes outside of the method control limits for the ICV are less than 20% of the total number of compounds being reported; this is allowed in SW8260C specifications. These compounds were within method control limits in the associated LCS. No further corrective action was taken.

For Semivolatiles Analysis, the recovery of N-Nitrosodimethylamine for the Initial Calibration Verification (ICV-120910) was slightly above the method control limits specified in SW8270D (80-120% recovery). This is flagged accordingly in the QC Summary report. The number of target analytes outside of the method control limits for the ICV are less than 20% of the total number of compounds being reported; this is allowed in SW8270D specifications. This compound was within method control limits in the associated LCS. No further corrective action was taken.

Exception Report S2-04

For Metals Analysis, Sodium was detected below the reporting limits for the Continuing Calibration Blank (CCB1-120913). The associated samples showed greater than 10x the amount detected in the blank. No further corrective action was taken.

Exception Report S4-01

For Dissolved/Trace Metals Analysis, batches 53814 and 53793, the response factor of multiple Internal Standards for batch and bracketing QC was above the method control limits, due to nature of matrix. The recovery of the associated analytes was within method control limits in the effected QC Samples. No further corrective action was taken.

Exception Report S5-02

For Semivolatile Analyses, some samples and/or standards were manually integrated. Please refer to the manual integration tables at the end of this report for the full list of samples, standards, and the compounds that were manually integrated.

Exception Report S9-01

For Dissolved/Trace Metals Analyses, batches 53814 and 53793, the recoveries of a couple of analytes for the Post Digestion Spike(s) (1209014-01 PDS) were outside of their method control limits. These are flagged accordingly in the QC Summary report. These analytes are within method control limits in the associated Serial Dilution. No further corrective action was taken.

For Dissolved/Trace Metals Analyses, batches 53814 and 53793, the RPD's of Chromium and Selenium

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Lab Order: 1209014

CASE NARRATIVE

for the Serial Dilution(s) (1209014-01 SD) were slightly above the method control limit. These are flagged accordingly in the QC Summary report. These analytes are within method control limits in the associated Post Digestion Spike. No further corrective action was taken.

A summary of project communication follows:

DHL Analytical received the Project RFQ from the client on 12/29/09. Completed RFQ returned to client via email on 1/07/2010. Purchase Order/Terms and Conditions received and signed and approved by both parties on 01/25/2010.

Brad Davis of Zia requested a bottle kit via email from Jennifer Barker of DHL on 7/27/12.

DHL Bottle kit #3502 sent on 8/13/12 via Lonestar Overnight, to arrive by 8/15/12.

This sample delivery group arrived at DHL Analytical 9/5/12. Sample summary sent via email from Log-in to client on 9/5/12.

All hardcopies for the sample kit request, bill of lading for sample kit sent and login summary are kept in project folder.

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Lab Order: 1209014

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1209014-01	HLSF-3839-HMW-032-0912		09/04/12 11:35 AM	9/5/2012
1209014-02	HLSF-3839-HMW-032-0912-TB		09/04/12 11:35 AM	9/5/2012
1209014-03	HLSF-3839-FB-001-0912		09/04/12 11:35 AM	9/5/2012
1209014-04	HLSF-3839-RB-001-0912		09/04/12 01:30 PM	9/5/2012
1209014-05	HLSF-3839-RB-001-0912-TB		09/04/12 01:30 PM	9/5/2012
1209014-06	HLSF-3839-HMW-059-0912		09/04/12 03:00 PM	9/5/2012

Lab Order: 1209014
Client: Zia Engineering & Environmental
Project: HELSTF Construction Landfill

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1209014-01A	HLSF-3839-HMW-032-0912	09/04/12 11:35 AM	Aqueous	SW5030C	Purge and Trap Water GC/MS	09/10/12 10:15 AM	53759
1209014-01B	HLSF-3839-HMW-032-0912	09/04/12 11:35 AM	Aqueous	SW5030C	Purge and Trap Water GC-Gas	09/05/12 11:59 AM	53683
1209014-01C	HLSF-3839-HMW-032-0912	09/04/12 11:35 AM	Aqueous	M5310C	TOC prep Aqueous	09/19/12 09:58 AM	53818
1209014-01D	HLSF-3839-HMW-032-0912	09/04/12 11:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/12/12 08:54 AM	53793
	HLSF-3839-HMW-032-0912	09/04/12 11:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/12/12 08:54 AM	53793
	HLSF-3839-HMW-032-0912	09/04/12 11:35 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	09/13/12 08:52 AM	53816
1209014-01E	HLSF-3839-HMW-032-0912	09/04/12 11:35 AM	Aqueous	SW3005A	Aq Prep Metals: Dissolved	09/13/12 08:49 AM	53814
	HLSF-3839-HMW-032-0912	09/04/12 11:35 AM	Aqueous	SW3005A	Aq Prep Metals: Dissolved	09/13/12 08:49 AM	53814
	HLSF-3839-HMW-032-0912	09/04/12 11:35 AM	Aqueous	SW3005A	Aq Prep Metals: Dissolved	09/13/12 08:49 AM	53814
	HLSF-3839-HMW-032-0912	09/04/12 11:35 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	09/13/12 08:52 AM	53816
1209014-01F	HLSF-3839-HMW-032-0912	09/04/12 11:35 AM	Aqueous	M2320 B	Alkalinity Preparation	09/05/12 11:30 AM	53685
	HLSF-3839-HMW-032-0912	09/04/12 11:35 AM	Aqueous	E300	Anion Preparation	09/05/12 10:37 AM	53681
	HLSF-3839-HMW-032-0912	09/04/12 11:35 AM	Aqueous	M4500-H+ B	pH Preparation	09/05/12 11:15 AM	53682
1209014-01G	HLSF-3839-HMW-032-0912	09/04/12 11:35 AM	Aqueous	SW8270D	Semivolatiles by GC/MS - Water	09/10/12 08:53 AM	53747
	HLSF-3839-HMW-032-0912	09/04/12 11:35 AM	Aqueous	SW8270D	Semivolatiles by GC/MS - Water	09/10/12 08:53 AM	53747
1209014-01H	HLSF-3839-HMW-032-0912	09/04/12 11:35 AM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	09/07/12 08:43 AM	53724
1209014-02A	HLSF-3839-HMW-032-0912-TB	09/04/12 11:35 AM	Trip Blank	SW5030C	Purge and Trap Water GC/MS	09/10/12 10:15 AM	53759
1209014-03A	HLSF-3839-FB-001-0912	09/04/12 11:35 AM	Field Blank	SW5030C	Purge and Trap Water GC/MS	09/10/12 10:15 AM	53759
1209014-04A	HLSF-3839-RB-001-0912	09/04/12 01:30 PM	Equip Blank	SW5030C	Purge and Trap Water GC/MS	09/10/12 10:15 AM	53759
1209014-04B	HLSF-3839-RB-001-0912	09/04/12 01:30 PM	Equip Blank	SW5030C	Purge and Trap Water GC-Gas	09/05/12 11:59 AM	53683

Lab Order: 1209014
Client: Zia Engineering & Environmental
Project: HELSTF Construction Landfill

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1209014-04C	HLSF-3839-RB-001-0912	09/04/12 01:30 PM	Equip Blank	M5310C	TOC prep Aqueous	09/19/12 09:58 AM	53818
1209014-04D	HLSF-3839-RB-001-0912	09/04/12 01:30 PM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	09/12/12 08:54 AM	53793
	HLSF-3839-RB-001-0912	09/04/12 01:30 PM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	09/12/12 08:54 AM	53793
	HLSF-3839-RB-001-0912	09/04/12 01:30 PM	Equip Blank	SW7470A	Mercury Aq Prep, Total	09/13/12 08:52 AM	53816
1209014-04E	HLSF-3839-RB-001-0912	09/04/12 01:30 PM	Equip Blank	SW3005A	Aq Prep Metals: Dissolved	09/13/12 08:49 AM	53814
	HLSF-3839-RB-001-0912	09/04/12 01:30 PM	Equip Blank	SW3005A	Aq Prep Metals: Dissolved	09/13/12 08:49 AM	53814
	HLSF-3839-RB-001-0912	09/04/12 01:30 PM	Equip Blank	SW7470A	Mercury Aq Prep, Total	09/13/12 08:52 AM	53816
1209014-04F	HLSF-3839-RB-001-0912	09/04/12 01:30 PM	Equip Blank	M2320 B	Alkalinity Preparation	09/05/12 11:30 AM	53685
	HLSF-3839-RB-001-0912	09/04/12 01:30 PM	Equip Blank	E300	Anion Preparation	09/05/12 10:37 AM	53681
	HLSF-3839-RB-001-0912	09/04/12 01:30 PM	Equip Blank	M4500-H+ B	pH Preparation	09/05/12 11:15 AM	53682
1209014-04G	HLSF-3839-RB-001-0912	09/04/12 01:30 PM	Equip Blank	SW8270D	Semivolatiles by GC/MS - Water	09/10/12 08:53 AM	53747
	HLSF-3839-RB-001-0912	09/04/12 01:30 PM	Equip Blank	SW8270D	Semivolatiles by GC/MS - Water	09/10/12 08:53 AM	53747
1209014-04H	HLSF-3839-RB-001-0912	09/04/12 01:30 PM	Equip Blank	SW3510C	Aq Prep Sep Funnel: DRO	09/07/12 08:43 AM	53724
1209014-05A	HLSF-3839-RB-001-0912-TB	09/04/12 01:30 PM	Trip Blank	SW5030C	Purge and Trap Water GC/MS	09/10/12 10:15 AM	53759
1209014-06A	HLSF-3839-HMW-059-0912	09/04/12 03:00 PM	Aqueous	SW5030C	Purge and Trap Water GC/MS	09/10/12 10:15 AM	53759
1209014-06B	HLSF-3839-HMW-059-0912	09/04/12 03:00 PM	Aqueous	SW5030C	Purge and Trap Water GC-Gas	09/05/12 11:59 AM	53683
1209014-06C	HLSF-3839-HMW-059-0912	09/04/12 03:00 PM	Aqueous	M5310C	TOC prep Aqueous	09/19/12 09:58 AM	53818
1209014-06D	HLSF-3839-HMW-059-0912	09/04/12 03:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/12/12 08:54 AM	53793
	HLSF-3839-HMW-059-0912	09/04/12 03:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/12/12 08:54 AM	53793
	HLSF-3839-HMW-059-0912	09/04/12 03:00 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	09/13/12 08:52 AM	53816

Lab Order: 1209014
Client: Zia Engineering & Environmental
Project: HELSTF Construction Landfill

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1209014-06E	HLSF-3839-HMW-059-0912	09/04/12 03:00 PM	Aqueous	SW3005A	Aq Prep Metals: Dissolved	09/13/12 08:49 AM	53814
	HLSF-3839-HMW-059-0912	09/04/12 03:00 PM	Aqueous	SW3005A	Aq Prep Metals: Dissolved	09/13/12 08:49 AM	53814
	HLSF-3839-HMW-059-0912	09/04/12 03:00 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	09/13/12 08:52 AM	53816
1209014-06F	HLSF-3839-HMW-059-0912	09/04/12 03:00 PM	Aqueous	M2320 B	Alkalinity Preparation	09/05/12 11:30 AM	53685
	HLSF-3839-HMW-059-0912	09/04/12 03:00 PM	Aqueous	E300	Anion Preparation	09/05/12 10:37 AM	53681
	HLSF-3839-HMW-059-0912	09/04/12 03:00 PM	Aqueous	M4500-H+ B	pH Preparation	09/05/12 11:15 AM	53682
1209014-06G	HLSF-3839-HMW-059-0912	09/04/12 03:00 PM	Aqueous	SW8270D	Semivolatiles by GC/MS - Water	09/10/12 08:53 AM	53747
	HLSF-3839-HMW-059-0912	09/04/12 03:00 PM	Aqueous	SW8270D	Semivolatiles by GC/MS - Water	09/10/12 08:53 AM	53747
1209014-06H	HLSF-3839-HMW-059-0912	09/04/12 03:00 PM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	09/07/12 08:43 AM	53724

Lab Order: 1209014
Client: Zia Engineering & Environmental
Project: HELSTF Construction Landfill

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1209014-01A	HLSF-3839-HMW-032-0912	Aqueous	SW8260C	8260 Water Volatiles by GC/MS	53759	1	09/10/12 11:27 AM	GCMS5_120910A
1209014-01B	HLSF-3839-HMW-032-0912	Aqueous	M8015V	TPH Purgeable by GC - Water	53683	1	09/05/12 03:50 PM	GC4_120905A
1209014-01C	HLSF-3839-HMW-032-0912	Aqueous	M5310C	Total Organic Carbon	53818	2	09/19/12 02:32 PM	TOC_120919A
1209014-01D	HLSF-3839-HMW-032-0912	Aqueous	SW7470A	Total Mercury: Aqueous	53816	1	09/14/12 02:07 PM	CETAC_HG_120914B
	HLSF-3839-HMW-032-0912	Aqueous	SW6020	Trace Metals: ICP-MS - Water	53793	100	09/13/12 02:48 PM	ICP-MS2_120913C
	HLSF-3839-HMW-032-0912	Aqueous	SW6020	Trace Metals: ICP-MS - Water	53793	1	09/14/12 02:27 PM	ICP-MS3_120914A
1209014-01E	HLSF-3839-HMW-032-0912	Aqueous	SW6020	Dissolved Metals-ICPMs (0.45μ)	53814	1	09/13/12 10:04 PM	ICP-MS2_120913C
	HLSF-3839-HMW-032-0912	Aqueous	SW6020	Dissolved Metals-ICPMs (0.45μ)	53814	100	09/14/12 01:17 PM	ICP-MS3_120914A
	HLSF-3839-HMW-032-0912	Aqueous	SW6020	Dissolved Metals-ICPMs (0.45μ)	53814	1	09/14/12 05:44 PM	ICP-MS3_120914A
	HLSF-3839-HMW-032-0912	Aqueous	SW7470A	Mercury Filtered (0.45μ)	53816	1	09/14/12 02:17 PM	CETAC_HG_120914B
1209014-01F	HLSF-3839-HMW-032-0912	Aqueous	M2320 B	Alkalinity	53685	1	09/05/12 12:06 PM	TITRATOR_120905B
	HLSF-3839-HMW-032-0912	Aqueous	E300	Anions by IC method - Water	53681	100	09/05/12 12:17 PM	IC_120905A
	HLSF-3839-HMW-032-0912	Aqueous	M4500-H+ B	pH	53682	1	09/05/12 11:27 AM	TITRATOR_120905A
1209014-01G	HLSF-3839-HMW-032-0912	Aqueous	SW8270D	Semivolatiles by GC/MS - Water	53747	1	09/10/12 09:13 PM	GCMS9_120910B
	HLSF-3839-HMW-032-0912	Aqueous	SW8270D	Semivolatiles by GC/MS - Water	53747	1	09/10/12 08:03 PM	GCMS9_120910A
1209014-01H	HLSF-3839-HMW-032-0912	Aqueous	M8015D	TPH Extractable by GC - Water	53724	1	09/09/12 08:16 PM	GC15_120909A
1209014-02A	HLSF-3839-HMW-032-0912-TB	Trip Blank	SW8260C	8260 Water Volatiles by GC/MS	53759	1	09/10/12 11:51 AM	GCMS5_120910A
1209014-03A	HLSF-3839-FB-001-0912	Field Blank	SW8260C	8260 Water Volatiles by GC/MS	53759	1	09/10/12 12:17 PM	GCMS5_120910A
1209014-04A	HLSF-3839-RB-001-0912	Equip Blank	SW8260C	8260 Water Volatiles by GC/MS	53759	1	09/10/12 12:41 PM	GCMS5_120910A
1209014-04B	HLSF-3839-RB-001-0912	Equip Blank	M8015V	TPH Purgeable by GC - Water	53683	1	09/05/12 04:15 PM	GC4_120905A

Lab Order: 1209014
Client: Zia Engineering & Environmental
Project: HELSTF Construction Landfill

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1209014-04C	HLSF-3839-RB-001-0912	Equip Blank	M5310C	Total Organic Carbon	53818	2	09/19/12 11:14 AM	TOC_120919A
1209014-04D	HLSF-3839-RB-001-0912	Equip Blank	SW7470A	Total Mercury: Aqueous	53816	1	09/14/12 02:28 PM	CETAC_HG_120914B
	HLSF-3839-RB-001-0912	Equip Blank	SW6020	Trace Metals: ICP-MS - Water	53793	1	09/14/12 12:49 PM	ICP-MS3_120914A
	HLSF-3839-RB-001-0912	Equip Blank	SW6020	Trace Metals: ICP-MS - Water	53793	1	09/13/12 02:20 PM	ICP-MS2_120913C
1209014-04E	HLSF-3839-RB-001-0912	Equip Blank	SW6020	Dissolved Metals-ICPMS (0.45μ)	53814	1	09/13/12 09:41 PM	ICP-MS2_120913C
	HLSF-3839-RB-001-0912	Equip Blank	SW6020	Dissolved Metals-ICPMS (0.45μ)	53814	1	09/14/12 12:55 PM	ICP-MS3_120914A
	HLSF-3839-RB-001-0912	Equip Blank	SW7470A	Mercury Filtered (0.45μ)	53816	1	09/14/12 02:30 PM	CETAC_HG_120914B
1209014-04F	HLSF-3839-RB-001-0912	Equip Blank	M2320 B	Alkalinity	53685	1	09/05/12 12:11 PM	TITRATOR_120905B
	HLSF-3839-RB-001-0912	Equip Blank	E300	Anions by IC method - Water	53681	1	09/05/12 11:39 AM	IC_120905A
	HLSF-3839-RB-001-0912	Equip Blank	M4500-H+ B	pH	53682	1	09/05/12 11:32 AM	TITRATOR_120905A
1209014-04G	HLSF-3839-RB-001-0912	Equip Blank	SW8270D	Semivolatiles by GC/MS - Water	53747	1	09/10/12 08:27 PM	GCMS9_120910A
	HLSF-3839-RB-001-0912	Equip Blank	SW8270D	Semivolatiles by GC/MS - Water	53747	1	09/10/12 09:36 PM	GCMS9_120910B
1209014-04H	HLSF-3839-RB-001-0912	Equip Blank	M8015D	TPH Extractable by GC - Water	53724	1	09/09/12 08:25 PM	GC15_120909A
1209014-05A	HLSF-3839-RB-001-0912-TB	Trip Blank	SW8260C	8260 Water Volatiles by GC/MS	53759	1	09/10/12 01:05 PM	GCMS5_120910A
1209014-06A	HLSF-3839-HMW-059-0912	Aqueous	SW8260C	8260 Water Volatiles by GC/MS	53759	1	09/10/12 01:31 PM	GCMS5_120910A
1209014-06B	HLSF-3839-HMW-059-0912	Aqueous	M8015V	TPH Purgeable by GC - Water	53683	1	09/05/12 04:41 PM	GC4_120905A
1209014-06C	HLSF-3839-HMW-059-0912	Aqueous	M5310C	Total Organic Carbon	53818	2	09/19/12 11:34 AM	TOC_120919A
1209014-06D	HLSF-3839-HMW-059-0912	Aqueous	SW7470A	Total Mercury: Aqueous	53816	1	09/14/12 02:32 PM	CETAC_HG_120914B
	HLSF-3839-HMW-059-0912	Aqueous	SW6020	Trace Metals: ICP-MS - Water	53793	1	09/13/12 01:42 PM	ICP-MS2_120913C
	HLSF-3839-HMW-059-0912	Aqueous	SW6020	Trace Metals: ICP-MS - Water	53793	100	09/13/12 03:00 PM	ICP-MS2_120913C

Lab Order: 1209014
Client: Zia Engineering & Environmental
Project: HELSTF Construction Landfill

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1209014-06E	HLSF-3839-HMW-059-0912	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45μ)	53814	1	09/13/12 10:16 PM	ICP-MS2_120913C
	HLSF-3839-HMW-059-0912	Aqueous	SW6020	Dissolved Metals-ICPMS (0.45μ)	53814	100	09/14/12 01:29 PM	ICP-MS3_120914A
	HLSF-3839-HMW-059-0912	Aqueous	SW7470A	Mercury Filtered (0.45μ)	53816	1	09/14/12 02:34 PM	CETAC_HG_120914B
1209014-06F	HLSF-3839-HMW-059-0912	Aqueous	M2320 B	Alkalinity	53685	1	09/05/12 12:18 PM	TITRATOR_120905B
	HLSF-3839-HMW-059-0912	Aqueous	E300	Anions by IC method - Water	53681	100	09/05/12 01:04 PM	IC_120905A
	HLSF-3839-HMW-059-0912	Aqueous	M4500-H+ B	pH	53682	1	09/05/12 11:35 AM	TITRATOR_120905A
1209014-06G	HLSF-3839-HMW-059-0912	Aqueous	SW8270D	Semivolatiles by GC/MS - Water	53747	1	09/10/12 08:50 PM	GCMS9_120910A
	HLSF-3839-HMW-059-0912	Aqueous	SW8270D	Semivolatiles by GC/MS - Water	53747	1	09/10/12 09:58 PM	GCMS9_120910B
1209014-06H	HLSF-3839-HMW-059-0912	Aqueous	M8015D	TPH Extractable by GC - Water	53724	1	09/09/12 08:34 PM	GC15_120909A

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-HMW-032-0912
Lab ID: 1209014-01
Collection Date: 09/04/12 11:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER							
TPH-DRO C10-C28	<0.0500	0.0500	0.100		mg/L	1	09/09/12 08:16 PM
Surr: Isopropylbenzene	57.0	0	47-142	%REC	1	09/09/12 08:16 PM	
Surr: Octacosane	113	0	51-124	%REC	1	09/09/12 08:16 PM	
TPH PURGEABLE BY GC - WATER							
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	09/05/12 03:50 PM
Surr: Tetrachlorethane	108	0	74-138	%REC	1	09/05/12 03:50 PM	
MERCURY FILTERED (0.45μ)							
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	09/14/12 02:17 PM
TOTAL MERCURY: AQUEOUS							
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	09/14/12 02:07 PM
DISSOLVED METALS-ICPMS (0.45μ)							
SW6020							
Arsenic	0.00308	0.00200	0.00600	J	mg/L	1	09/14/12 05:44 PM
Barium	0.0156	0.00300	0.0100		mg/L	1	09/13/12 10:04 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/13/12 10:04 PM
Calcium	431	10.0	30.0		mg/L	100	09/14/12 01:17 PM
Chromium	0.0339	0.00200	0.00600		mg/L	1	09/14/12 05:44 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	09/13/12 10:04 PM
Magnesium	257	10.0	30.0		mg/L	100	09/14/12 01:17 PM
Potassium	47.8	10.0	30.0		mg/L	100	09/14/12 01:17 PM
Selenium	0.0676	0.00200	0.00600		mg/L	1	09/14/12 05:44 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	09/13/12 10:04 PM
Sodium	2220	10.0	30.0		mg/L	100	09/14/12 01:17 PM
TRACE METALS: ICP-MS - WATER							
SW6020							
Arsenic	0.00267	0.00200	0.00600	J	mg/L	1	09/14/12 02:27 PM
Barium	0.0170	0.00300	0.0100		mg/L	1	09/14/12 02:27 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/14/12 02:27 PM
Calcium	413	10.0	30.0		mg/L	100	09/13/12 02:48 PM
Chromium	0.0348	0.00200	0.00600		mg/L	1	09/14/12 02:27 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	09/14/12 02:27 PM
Magnesium	247	10.0	30.0		mg/L	100	09/13/12 02:48 PM
Potassium	48.8	10.0	30.0		mg/L	100	09/13/12 02:48 PM
Selenium	0.0658	0.00200	0.00600		mg/L	1	09/14/12 02:27 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	09/14/12 02:27 PM
Sodium	2250	10.0	30.0		mg/L	100	09/13/12 02:48 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit		ND	Not Detected at the Method Detection Limit
RL	Reporting Limit		S	Spike Recovery outside control limits
N	Parameter not NELAC certified			

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-HMW-032-0912
Lab ID: 1209014-01
Collection Date: 09/04/12 11:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER							
		SW8270D					Analyst: DO
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
1,2-Diphenylhydrazine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
1-Chloronaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	09/10/12 09:13 PM
1-Methylnaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	09/10/12 08:03 PM
1-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:13 PM
2,4,5-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
2,4,6-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
2,4-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
2,4-Dimethylphenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
2,4-Dinitrophenol	<0.00100	0.00100	0.00400		mg/L	1	09/10/12 08:03 PM
2,4-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
2,6-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
2,6-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
2-Chloronaphthalene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
2-Chlorophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
2-Methylnaphthalene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
2-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
2-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:13 PM
2-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
2-Nitrophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
2-Picoline	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:13 PM
3,3'-Dichlorobenzidine	<0.00100	0.00100	0.00400		mg/L	1	09/10/12 08:03 PM
3-Methylcholanthrene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:13 PM
3-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
4,6-Dinitro-2-methylphenol	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 08:03 PM
4-Aminobiphenyl	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:13 PM
4-Bromophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
4-Chloro-3-methylphenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
4-Chloroaniline	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 08:03 PM
4-Chlorophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
4-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
4-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
4-Nitrophenol	<0.00100	0.00100	0.00400		mg/L	1	09/10/12 08:03 PM
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:13 PM
Acenaphthene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Acenaphthylene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Acetophenone	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Aniline	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level
C Sample Result or QC discussed in the Case Narrative
E TPH pattern not Gas or Diesel Range Pattern
MDL Method Detection Limit
RL Reporting Limit
N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
DF Dilution Factor
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
S Spike Recovery outside control limits

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-HMW-032-0912
Lab ID: 1209014-01
Collection Date: 09/04/12 11:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER							
		SW8270D					Analyst: DO
Anthracene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Benzidine	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 08:03 PM
Benzo[a]anthracene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Benzo[a]pyrene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Benzo[b]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Benzo[g,h,i]perylene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Benzo[k]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Benzoic acid	0.00670	0.00200	0.00600		mg/L	1	09/10/12 08:03 PM
Benzyl alcohol	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 08:03 PM
Biphenyl	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Bis(2-chloroethoxy)methane	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Bis(2-chloroethyl)ether	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Bis(2-chloroisopropyl)ether	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Bis(2-ethylhexyl)phthalate	<0.00100	0.00100	0.00300		mg/L	1	09/10/12 08:03 PM
Butyl benzyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 08:03 PM
Carbazole	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Chrysene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Di-n-butyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 08:03 PM
Di-n-octyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 08:03 PM
Dibenz(a,j)acridine	<0.00100	0.00100	0.00400	N	mg/L	1	09/10/12 09:13 PM
Dibenz[a,h]anthracene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Dibenzofuran	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Diethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 08:03 PM
Dimethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 08:03 PM
Dimethylphenethylamine	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 09:13 PM
Diphenylamine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:13 PM
Ethyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:13 PM
Fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Fluorene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Hexachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Hexachlorobutadiene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Hexachlorocyclopentadiene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 08:03 PM
Hexachloroethane	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Indeno[1,2,3-cd]pyrene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Isophorone	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Methyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:13 PM
N-Nitrosodi-n-propylamine	<0.000100	0.000100	0.000800		mg/L	1	09/10/12 08:03 PM
N-Nitrosodimethylamine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM

Qualifiers:

- * Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern
- MDL Method Detection Limit
- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
DF Dilution Factor
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
S Spike Recovery outside control limits

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-HMW-032-0912
Lab ID: 1209014-01
Collection Date: 09/04/12 11:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER							
					SW8270D		Analyst: DO
N-Nitrosodiphenylamine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
N-Nitrosopiperidine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:13 PM
Naphthalene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Nitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
p-Dimethylaminoazobenzene	<0.000200	0.000200	0.000800	N	mg/L	1	09/10/12 09:13 PM
Pentachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Pentachloronitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:13 PM
Pentachlorophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Phenacetin	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:13 PM
Phenanthrene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Phenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Pronamide	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:13 PM
Pyrene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:03 PM
Pyridine	<0.000800	0.000800	0.00200		mg/L	1	09/10/12 08:03 PM
Surr: 2,4,6-Tribromophenol	103	0	42-124	%REC	1	09/10/12 08:03 PM	
Surr: 2,4,6-Tribromophenol	90.3	0	42-124	%REC	1	09/10/12 09:13 PM	
Surr: 2-Fluorobiphenyl	87.0	0	50-110	%REC	1	09/10/12 08:03 PM	
Surr: 2-Fluorobiphenyl	92.0	0	50-110	%REC	1	09/10/12 09:13 PM	
Surr: 2-Fluorophenol	65.2	0	20-110	%REC	1	09/10/12 08:03 PM	
Surr: 2-Fluorophenol	72.0	0	20-110	%REC	1	09/10/12 09:13 PM	
Surr: 4-Terphenyl-d14	100	0	51-135	%REC	1	09/10/12 09:13 PM	
Surr: 4-Terphenyl-d14	105	0	51-135	%REC	1	09/10/12 08:03 PM	
Surr: Nitrobenzene-d5	85.0	0	41-110	%REC	1	09/10/12 08:03 PM	
Surr: Nitrobenzene-d5	92.0	0	41-110	%REC	1	09/10/12 09:13 PM	
Surr: Phenol-d6	48.0	0	20-115	%REC	1	09/10/12 08:03 PM	
Surr: Phenol-d6	50.5	0	20-115	%REC	1	09/10/12 09:13 PM	
8260 WATER VOLATILES BY GC/MS							
					SW8260C		Analyst: KL
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 11:27 AM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:27 AM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 11:27 AM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 11:27 AM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level
 C Sample Result or QC discussed in the Case Narrative
 E TPH pattern not Gas or Diesel Range Pattern
 MDL Method Detection Limit
 RL Reporting Limit
 N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
 DF Dilution Factor
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 S Spike Recovery outside control limits

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-HMW-032-0912
Lab ID: 1209014-01
Collection Date: 09/04/12 11:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS							
		SW8260C					Analyst: KL
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	09/10/12 11:27 AM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:27 AM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:27 AM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 11:27 AM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:27 AM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	09/10/12 11:27 AM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:27 AM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 11:27 AM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 11:27 AM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:27 AM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 11:27 AM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:27 AM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 11:27 AM
Acetone	0.0128	0.00500	0.0150	J	mg/L	1	09/10/12 11:27 AM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	09/10/12 11:27 AM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:27 AM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 11:27 AM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:27 AM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:27 AM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:27 AM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:27 AM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 11:27 AM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level
C Sample Result or QC discussed in the Case Narrative
E TPH pattern not Gas or Diesel Range Pattern
MDL Method Detection Limit
RL Reporting Limit
N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
DF Dilution Factor
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
S Spike Recovery outside control limits

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-HMW-032-0912
Lab ID: 1209014-01
Collection Date: 09/04/12 11:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS							
		SW8260C					Analyst: KL
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 11:27 AM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:27 AM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	09/10/12 11:27 AM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:27 AM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:27 AM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:27 AM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:27 AM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:27 AM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:27 AM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 11:27 AM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 11:27 AM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 11:27 AM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:27 AM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	09/10/12 11:27 AM
Surr: 1,2-Dichloroethane-d4	91.3	0	70-120	%REC	1	09/10/12 11:27 AM	
Surr: 4-Bromofluorobenzene	93.5	0	75-120	%REC	1	09/10/12 11:27 AM	
Surr: Dibromofluoromethane	93.8	0	85-115	%REC	1	09/10/12 11:27 AM	
Surr: Toluene-d8	91.9	0	85-120	%REC	1	09/10/12 11:27 AM	
ANIONS BY IC METHOD - WATER							
		E300					Analyst: JBC
Chloride	1480	30.0	100		mg/L	100	09/05/12 12:17 PM
Sulfate	5410	100	300		mg/L	100	09/05/12 12:17 PM
ALKALINITY							
		M2320 B					Analyst: JBC
Alkalinity, Bicarbonate (As CaCO ₃)	51.5	10.0	20.0		mg/L	1	09/05/12 12:06 PM
Alkalinity, Carbonate (As CaCO ₃)	<10.0	10.0	20.0		mg/L	1	09/05/12 12:06 PM
Alkalinity, Hydroxide (As CaCO ₃)	<10.0	10.0	20.0		mg/L	1	09/05/12 12:06 PM
Alkalinity, Total (As CaCO ₃)	51.5	10.0	20.0		mg/L	1	09/05/12 12:06 PM
PH							
		M4500-H+ B					Analyst: JBC
pH	8.09	0	0		pH Units	1	09/05/12 11:27 AM
TOTAL ORGANIC CARBON							
		M5310C					Analyst: JCG
Total Organic Carbon	<0.600	0.600	2.00		mg/L	2	09/19/12 02:32 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit		ND	Not Detected at the Method Detection Limit
RL	Reporting Limit		S	Spike Recovery outside control limits
N	Parameter not NELAC certified			

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-HMW-032-0912-TB
Lab ID: 1209014-02
Collection Date: 09/04/12 11:35 AM
Matrix: TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS							
		SW8260C					Analyst: KL
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 11:51 AM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:51 AM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 11:51 AM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 11:51 AM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	09/10/12 11:51 AM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:51 AM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:51 AM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 11:51 AM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:51 AM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	09/10/12 11:51 AM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:51 AM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 11:51 AM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 11:51 AM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:51 AM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 11:51 AM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:51 AM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 11:51 AM
Acetone	0.0224	0.00500	0.0150		mg/L	1	09/10/12 11:51 AM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	09/10/12 11:51 AM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:51 AM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 11:51 AM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level
 C Sample Result or QC discussed in the Case Narrative
 E TPH pattern not Gas or Diesel Range Pattern
 MDL Method Detection Limit
 RL Reporting Limit
 N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
 DF Dilution Factor
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 S Spike Recovery outside control limits

DHL Analytical

Date: 20-Sep-12

CLIENT:	Zia Engineering & Environmental	Client Sample ID:	HLSF-3839-HMW-032-0912-TB
Project:	HELSTF Construction Landfill	Lab ID:	1209014-02
Project No:	Collection Date: 09/04/12 11:35 AM		
Lab Order:	Matrix: TRIP BLANK		

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS							
				SW8260C			Analyst: KL
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:51 AM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:51 AM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:51 AM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:51 AM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 11:51 AM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 11:51 AM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:51 AM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	09/10/12 11:51 AM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:51 AM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:51 AM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:51 AM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:51 AM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:51 AM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 11:51 AM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 11:51 AM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 11:51 AM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 11:51 AM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 11:51 AM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	09/10/12 11:51 AM
Surr: 1,2-Dichloroethane-d4	90.2	0	70-120	%REC	1	09/10/12 11:51 AM	
Surr: 4-Bromofluorobenzene	94.0	0	75-120	%REC	1	09/10/12 11:51 AM	
Surr: Dibromofluoromethane	92.3	0	85-115	%REC	1	09/10/12 11:51 AM	
Surr: Toluene-d8	92.2	0	85-120	%REC	1	09/10/12 11:51 AM	

Qualifiers:

- * Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern
- MDL Method Detection Limit
- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
DF Dilution Factor
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
S Spike Recovery outside control limits

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-FB-001-0912
Lab ID: 1209014-03
Collection Date: 09/04/12 11:35 AM
Matrix: FIELD BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS							
		SW8260C					Analyst: KL
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 12:17 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:17 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 12:17 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 12:17 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	09/10/12 12:17 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:17 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:17 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 12:17 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:17 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	09/10/12 12:17 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:17 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 12:17 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 12:17 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:17 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 12:17 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:17 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 12:17 PM
Acetone	0.0261	0.00500	0.0150		mg/L	1	09/10/12 12:17 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	09/10/12 12:17 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:17 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 12:17 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level
C Sample Result or QC discussed in the Case Narrative
E TPH pattern not Gas or Diesel Range Pattern
MDL Method Detection Limit
RL Reporting Limit
N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
DF Dilution Factor
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
S Spike Recovery outside control limits

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-FB-001-0912
Lab ID: 1209014-03
Collection Date: 09/04/12 11:35 AM
Matrix: FIELD BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS							
				SW8260C			Analyst: KL
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:17 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:17 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:17 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:17 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 12:17 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 12:17 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:17 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	09/10/12 12:17 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:17 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:17 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:17 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:17 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:17 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:17 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 12:17 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 12:17 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 12:17 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:17 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	09/10/12 12:17 PM
Surr: 1,2-Dichloroethane-d4	91.5	0	70-120	%REC	1	09/10/12 12:17 PM	
Surr: 4-Bromofluorobenzene	95.8	0	75-120	%REC	1	09/10/12 12:17 PM	
Surr: Dibromofluoromethane	93.7	0	85-115	%REC	1	09/10/12 12:17 PM	
Surr: Toluene-d8	91.3	0	85-120	%REC	1	09/10/12 12:17 PM	

Qualifiers: * Value exceeds TCLP Maximum Concentration Level
 C Sample Result or QC discussed in the Case Narrative
 E TPH pattern not Gas or Diesel Range Pattern
 MDL Method Detection Limit
 RL Reporting Limit
 N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
 DF Dilution Factor
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 S Spike Recovery outside control limits

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-RB-001-0912
Lab ID: 1209014-04
Collection Date: 09/04/12 01:30 PM
Matrix: EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER							
TPH-DRO C10-C28	0.0670	0.0500	0.100	J	mg/L	1	09/09/12 08:25 PM
Surr: Isopropylbenzene	62.4	0	47-142	%REC	%REC	1	09/09/12 08:25 PM
Surr: Octacosane	113	0	51-124	%REC	%REC	1	09/09/12 08:25 PM
TPH PURGEABLE BY GC - WATER							
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	09/05/12 04:15 PM
Surr: Tetrachlorethane	95.6	0	74-138	%REC	%REC	1	09/05/12 04:15 PM
MERCURY FILTERED (0.45μ)							
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	09/14/12 02:30 PM
TOTAL MERCURY: AQUEOUS							
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	09/14/12 02:28 PM
DISSOLVED METALS-ICPMS (0.45μ)							
Arsenic	<0.00200	0.00200	0.00600		mg/L	1	09/14/12 12:55 PM
Barium	<0.00300	0.00300	0.0100		mg/L	1	09/14/12 12:55 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/14/12 12:55 PM
Calcium	<0.100	0.100	0.300		mg/L	1	09/14/12 12:55 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	09/14/12 12:55 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	09/14/12 12:55 PM
Magnesium	<0.100	0.100	0.300		mg/L	1	09/14/12 12:55 PM
Potassium	<0.100	0.100	0.300		mg/L	1	09/14/12 12:55 PM
Selenium	<0.00200	0.00200	0.00600		mg/L	1	09/14/12 12:55 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	09/14/12 12:55 PM
Sodium	<0.100	0.100	0.300		mg/L	1	09/14/12 12:55 PM
TRACE METALS: ICP-MS - WATER							
Arsenic	<0.00200	0.00200	0.00600		mg/L	1	09/13/12 02:20 PM
Barium	<0.00300	0.00300	0.0100		mg/L	1	09/13/12 02:20 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/13/12 02:20 PM
Calcium	<0.100	0.100	0.300		mg/L	1	09/13/12 02:20 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	09/13/12 02:20 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	09/13/12 02:20 PM
Magnesium	<0.100	0.100	0.300		mg/L	1	09/13/12 02:20 PM
Potassium	<0.100	0.100	0.300		mg/L	1	09/13/12 02:20 PM
Selenium	<0.00200	0.00200	0.00600		mg/L	1	09/13/12 02:20 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	09/13/12 02:20 PM
Sodium	<0.100	0.100	0.300		mg/L	1	09/14/12 12:49 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit		ND	Not Detected at the Method Detection Limit
RL	Reporting Limit		S	Spike Recovery outside control limits
N	Parameter not NELAC certified			

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-RB-001-0912
Lab ID: 1209014-04
Collection Date: 09/04/12 01:30 PM
Matrix: EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER							
		SW8270D					Analyst: DO
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
1,2-Diphenylhydrazine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
1-Chloronaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	09/10/12 09:36 PM
1-Methylnaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	09/10/12 08:27 PM
1-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:36 PM
2,4,5-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
2,4,6-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
2,4-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
2,4-Dimethylphenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
2,4-Dinitrophenol	<0.00100	0.00100	0.00400		mg/L	1	09/10/12 08:27 PM
2,4-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
2,6-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
2,6-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
2-Chloronaphthalene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
2-Chlorophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
2-Methylnaphthalene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
2-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
2-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:36 PM
2-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
2-Nitrophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
2-Picoline	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:36 PM
3,3'-Dichlorobenzidine	<0.00100	0.00100	0.00400		mg/L	1	09/10/12 08:27 PM
3-Methylcholanthrene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:36 PM
3-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
4,6-Dinitro-2-methylphenol	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 08:27 PM
4-Aminobiphenyl	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:36 PM
4-Bromophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
4-Chloro-3-methylphenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
4-Chloroaniline	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 08:27 PM
4-Chlorophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
4-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
4-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
4-Nitrophenol	<0.00100	0.00100	0.00400		mg/L	1	09/10/12 08:27 PM
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:36 PM
Acenaphthene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Acenaphthylene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Acetophenone	0.000540	0.000200	0.000800	J	mg/L	1	09/10/12 08:27 PM
Aniline	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level
C Sample Result or QC discussed in the Case Narrative
E TPH pattern not Gas or Diesel Range Pattern
MDL Method Detection Limit
RL Reporting Limit
N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
DF Dilution Factor
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
S Spike Recovery outside control limits

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-RB-001-0912
Lab ID: 1209014-04
Collection Date: 09/04/12 01:30 PM
Matrix: EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER							
		SW8270D					Analyst: DO
Anthracene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Benzidine	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 08:27 PM
Benzo[a]anthracene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Benzo[a]pyrene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Benzo[b]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Benzo[g,h,i]perylene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Benzo[k]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Benzoic acid	0.0110	0.00200	0.00600		mg/L	1	09/10/12 08:27 PM
Benzyl alcohol	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 08:27 PM
Biphenyl	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Bis(2-chloroethoxy)methane	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Bis(2-chloroethyl)ether	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Bis(2-chloroisopropyl)ether	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Bis(2-ethylhexyl)phthalate	<0.00100	0.00100	0.00300		mg/L	1	09/10/12 08:27 PM
Butyl benzyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 08:27 PM
Carbazole	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Chrysene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Di-n-butyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 08:27 PM
Di-n-octyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 08:27 PM
Dibenz(a,j)acridine	<0.00100	0.00100	0.00400	N	mg/L	1	09/10/12 09:36 PM
Dibenz[a,h]anthracene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Dibenzofuran	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Diethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 08:27 PM
Dimethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 08:27 PM
Dimethylphenethylamine	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 09:36 PM
Diphenylamine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:36 PM
Ethyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:36 PM
Fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Fluorene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Hexachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Hexachlorobutadiene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Hexachlorocyclopentadiene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 08:27 PM
Hexachloroethane	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Indeno[1,2,3-cd]pyrene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Isophorone	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Methyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:36 PM
N-Nitrosodi-n-propylamine	<0.000100	0.000100	0.000800		mg/L	1	09/10/12 08:27 PM
N-Nitrosodimethylamine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM

Qualifiers:

- * Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern
- MDL Method Detection Limit
- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
DF Dilution Factor
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
S Spike Recovery outside control limits

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-RB-001-0912
Lab ID: 1209014-04
Collection Date: 09/04/12 01:30 PM
Matrix: EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER							
				SW8270D			Analyst: DO
N-Nitrosodiphenylamine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
N-Nitrosopiperidine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:36 PM
Naphthalene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Nitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
p-Dimethylaminoazobenzene	<0.000200	0.000200	0.000800	N	mg/L	1	09/10/12 09:36 PM
Pentachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Pentachloronitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:36 PM
Pentachlorophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Phenacetin	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:36 PM
Phenanthrene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Phenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Pronamide	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:36 PM
Pyrene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:27 PM
Pyridine	<0.000800	0.000800	0.00200		mg/L	1	09/10/12 08:27 PM
Surr: 2,4,6-Tribromophenol	110	0	42-124	%REC	1	09/10/12 08:27 PM	
Surr: 2,4,6-Tribromophenol	97.5	0	42-124	%REC	1	09/10/12 09:36 PM	
Surr: 2-Fluorobiphenyl	92.3	0	50-110	%REC	1	09/10/12 08:27 PM	
Surr: 2-Fluorobiphenyl	97.0	0	50-110	%REC	1	09/10/12 09:36 PM	
Surr: 2-Fluorophenol	69.8	0	20-110	%REC	1	09/10/12 08:27 PM	
Surr: 2-Fluorophenol	77.8	0	20-110	%REC	1	09/10/12 09:36 PM	
Surr: 4-Terphenyl-d14	112	0	51-135	%REC	1	09/10/12 09:36 PM	
Surr: 4-Terphenyl-d14	111	0	51-135	%REC	1	09/10/12 08:27 PM	
Surr: Nitrobenzene-d5	90.0	0	41-110	%REC	1	09/10/12 08:27 PM	
Surr: Nitrobenzene-d5	97.3	0	41-110	%REC	1	09/10/12 09:36 PM	
Surr: Phenol-d6	47.8	0	20-115	%REC	1	09/10/12 08:27 PM	
Surr: Phenol-d6	51.3	0	20-115	%REC	1	09/10/12 09:36 PM	
8260 WATER VOLATILES BY GC/MS							
				SW8260C			Analyst: KL
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 12:41 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:41 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 12:41 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 12:41 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level
 C Sample Result or QC discussed in the Case Narrative
 E TPH pattern not Gas or Diesel Range Pattern
 MDL Method Detection Limit
 RL Reporting Limit
 N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
 DF Dilution Factor
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 S Spike Recovery outside control limits

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-RB-001-0912
Lab ID: 1209014-04
Collection Date: 09/04/12 01:30 PM
Matrix: EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS							
		SW8260C					Analyst: KL
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	09/10/12 12:41 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:41 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:41 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 12:41 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:41 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	09/10/12 12:41 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:41 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 12:41 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 12:41 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:41 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 12:41 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:41 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 12:41 PM
Acetone	0.0275	0.00500	0.0150		mg/L	1	09/10/12 12:41 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	09/10/12 12:41 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:41 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 12:41 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:41 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:41 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:41 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:41 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 12:41 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level
 C Sample Result or QC discussed in the Case Narrative
 E TPH pattern not Gas or Diesel Range Pattern
 MDL Method Detection Limit
 RL Reporting Limit
 N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
 DF Dilution Factor
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 S Spike Recovery outside control limits

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-RB-001-0912
Lab ID: 1209014-04
Collection Date: 09/04/12 01:30 PM
Matrix: EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS							
		SW8260C					Analyst: KL
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 12:41 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:41 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	09/10/12 12:41 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:41 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:41 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:41 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:41 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:41 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 12:41 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 12:41 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 12:41 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 12:41 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 12:41 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	09/10/12 12:41 PM
Surr: 1,2-Dichloroethane-d4	91.6	0	70-120	%REC	1	09/10/12 12:41 PM	
Surr: 4-Bromofluorobenzene	95.5	0	75-120	%REC	1	09/10/12 12:41 PM	
Surr: Dibromofluoromethane	93.1	0	85-115	%REC	1	09/10/12 12:41 PM	
Surr: Toluene-d8	90.6	0	85-120	%REC	1	09/10/12 12:41 PM	
ANIONS BY IC METHOD - WATER							
		E300					Analyst: JBC
Chloride	<0.300	0.300	1.00		mg/L	1	09/05/12 11:39 AM
Sulfate	<1.00	1.00	3.00		mg/L	1	09/05/12 11:39 AM
ALKALINITY							
		M2320 B					Analyst: JBC
Alkalinity, Bicarbonate (As CaCO ₃)	<10.0	10.0	20.0		mg/L	1	09/05/12 12:11 PM
Alkalinity, Carbonate (As CaCO ₃)	<10.0	10.0	20.0		mg/L	1	09/05/12 12:11 PM
Alkalinity, Hydroxide (As CaCO ₃)	<10.0	10.0	20.0		mg/L	1	09/05/12 12:11 PM
Alkalinity, Total (As CaCO ₃)	<10.0	10.0	20.0		mg/L	1	09/05/12 12:11 PM
PH							
		M4500-H+ B					Analyst: JBC
pH	7.80	0	0		pH Units	1	09/05/12 11:32 AM
TOTAL ORGANIC CARBON							
		M5310C					Analyst: JCG
Total Organic Carbon	<0.600	0.600	2.00		mg/L	2	09/19/12 11:14 AM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level
 C Sample Result or QC discussed in the Case Narrative
 E TPH pattern not Gas or Diesel Range Pattern
 MDL Method Detection Limit
 RL Reporting Limit
 N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
 DF Dilution Factor
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 S Spike Recovery outside control limits

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-RB-001-0912-TB
Lab ID: 1209014-05
Collection Date: 09/04/12 01:30 PM
Matrix: TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS							
		SW8260C					Analyst: KL
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 01:05 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:05 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 01:05 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 01:05 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	09/10/12 01:05 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:05 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:05 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 01:05 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:05 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	09/10/12 01:05 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:05 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 01:05 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 01:05 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:05 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 01:05 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:05 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 01:05 PM
Acetone	0.0116	0.00500	0.0150	J	mg/L	1	09/10/12 01:05 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	09/10/12 01:05 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:05 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 01:05 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level
C Sample Result or QC discussed in the Case Narrative
E TPH pattern not Gas or Diesel Range Pattern
MDL Method Detection Limit
RL Reporting Limit
N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
DF Dilution Factor
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
S Spike Recovery outside control limits

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-RB-001-0912-TB
Lab ID: 1209014-05
Collection Date: 09/04/12 01:30 PM
Matrix: TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS							
				SW8260C			Analyst: KL
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:05 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:05 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:05 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:05 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 01:05 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 01:05 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:05 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	09/10/12 01:05 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:05 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:05 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:05 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:05 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:05 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:05 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 01:05 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 01:05 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 01:05 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:05 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	09/10/12 01:05 PM
Surr: 1,2-Dichloroethane-d4	92.4	0	70-120	%REC	1	09/10/12 01:05 PM	
Surr: 4-Bromofluorobenzene	95.3	0	75-120	%REC	1	09/10/12 01:05 PM	
Surr: Dibromofluoromethane	93.4	0	85-115	%REC	1	09/10/12 01:05 PM	
Surr: Toluene-d8	91.8	0	85-120	%REC	1	09/10/12 01:05 PM	

Qualifiers: * Value exceeds TCLP Maximum Concentration Level
 C Sample Result or QC discussed in the Case Narrative
 E TPH pattern not Gas or Diesel Range Pattern
 MDL Method Detection Limit
 RL Reporting Limit
 N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
 DF Dilution Factor
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 S Spike Recovery outside control limits

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-HMW-059-0912
Lab ID: 1209014-06
Collection Date: 09/04/12 03:00 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - WATER							
TPH-DRO C10-C28	<0.0500	0.0500	0.100		mg/L	1	09/09/12 08:34 PM
Surr: Isopropylbenzene	60.2	0	47-142	%REC	1	09/09/12 08:34 PM	
Surr: Octacosane	119	0	51-124	%REC	1	09/09/12 08:34 PM	
TPH PURGEABLE BY GC - WATER							
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	09/05/12 04:41 PM
Surr: Tetrachlorethane	106	0	74-138	%REC	1	09/05/12 04:41 PM	
MERCURY FILTERED (0.45μ)							
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	09/14/12 02:34 PM
TOTAL MERCURY: AQUEOUS							
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	09/14/12 02:32 PM
DISSOLVED METALS-ICPMS (0.45μ)							
SW6020							
Arsenic	0.0135	0.00200	0.00600		mg/L	1	09/13/12 10:16 PM
Barium	0.00991	0.00300	0.0100	J	mg/L	1	09/13/12 10:16 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/13/12 10:16 PM
Calcium	428	10.0	30.0		mg/L	100	09/14/12 01:29 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	09/13/12 10:16 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	09/13/12 10:16 PM
Magnesium	536	10.0	30.0		mg/L	100	09/14/12 01:29 PM
Potassium	51.0	10.0	30.0		mg/L	100	09/14/12 01:29 PM
Selenium	0.0304	0.00200	0.00600		mg/L	1	09/13/12 10:16 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	09/13/12 10:16 PM
Sodium	2260	10.0	30.0		mg/L	100	09/14/12 01:29 PM
TRACE METALS: ICP-MS - WATER							
SW6020							
Arsenic	0.0134	0.00200	0.00600		mg/L	1	09/13/12 01:42 PM
Barium	0.00986	0.00300	0.0100	J	mg/L	1	09/13/12 01:42 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/13/12 01:42 PM
Calcium	420	10.0	30.0		mg/L	100	09/13/12 03:00 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	09/13/12 01:42 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	09/13/12 01:42 PM
Magnesium	506	10.0	30.0		mg/L	100	09/13/12 03:00 PM
Potassium	49.1	10.0	30.0		mg/L	100	09/13/12 03:00 PM
Selenium	0.0298	0.00200	0.00600		mg/L	1	09/13/12 01:42 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	09/13/12 01:42 PM
Sodium	2200	10.0	30.0		mg/L	100	09/13/12 03:00 PM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit		ND	Not Detected at the Method Detection Limit
RL	Reporting Limit		S	Spike Recovery outside control limits
N	Parameter not NELAC certified			

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-HMW-059-0912
Lab ID: 1209014-06
Collection Date: 09/04/12 03:00 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER							
		SW8270D					Analyst: DO
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
1,2-Diphenylhydrazine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
1-Chloronaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	09/10/12 09:58 PM
1-Methylnaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	09/10/12 08:50 PM
1-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:58 PM
2,4,5-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
2,4,6-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
2,4-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
2,4-Dimethylphenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
2,4-Dinitrophenol	<0.00100	0.00100	0.00400		mg/L	1	09/10/12 08:50 PM
2,4-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
2,6-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
2,6-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
2-Chloronaphthalene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
2-Chlorophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
2-Methylnaphthalene	0.000200	0.000200	0.000800	J	mg/L	1	09/10/12 08:50 PM
2-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
2-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:58 PM
2-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
2-Nitrophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
2-Picoline	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:58 PM
3,3'-Dichlorobenzidine	<0.00100	0.00100	0.00400		mg/L	1	09/10/12 08:50 PM
3-Methylcholanthrene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:58 PM
3-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
4,6-Dinitro-2-methylphenol	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 08:50 PM
4-Aminobiphenyl	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:58 PM
4-Bromophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
4-Chloro-3-methylphenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
4-Chloroaniline	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 08:50 PM
4-Chlorophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
4-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
4-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
4-Nitrophenol	<0.00100	0.00100	0.00400		mg/L	1	09/10/12 08:50 PM
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:58 PM
Acenaphthene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Acenaphthylene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Acetophenone	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Aniline	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level
C Sample Result or QC discussed in the Case Narrative
E TPH pattern not Gas or Diesel Range Pattern
MDL Method Detection Limit
RL Reporting Limit
N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
DF Dilution Factor
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
S Spike Recovery outside control limits

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-HMW-059-0912
Lab ID: 1209014-06
Collection Date: 09/04/12 03:00 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER							
		SW8270D					Analyst: DO
Anthracene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Benzidine	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 08:50 PM
Benzo[a]anthracene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Benzo[a]pyrene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Benzo[b]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Benzo[g,h,i]perylene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Benzo[k]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Benzoic acid	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 08:50 PM
Benzyl alcohol	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 08:50 PM
Biphenyl	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Bis(2-chloroethoxy)methane	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Bis(2-chloroethyl)ether	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Bis(2-chloroisopropyl)ether	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Bis(2-ethylhexyl)phthalate	<0.00100	0.00100	0.00300		mg/L	1	09/10/12 08:50 PM
Butyl benzyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 08:50 PM
Carbazole	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Chrysene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Di-n-butyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 08:50 PM
Di-n-octyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 08:50 PM
Dibenz(a,j)acridine	<0.00100	0.00100	0.00400	N	mg/L	1	09/10/12 09:58 PM
Dibenz[a,h]anthracene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Dibenzofuran	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Diethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 08:50 PM
Dimethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 08:50 PM
Dimethylphenethylamine	<0.00200	0.00200	0.00600		mg/L	1	09/10/12 09:58 PM
Diphenylamine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:58 PM
Ethyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:58 PM
Fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Fluorene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Hexachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Hexachlorobutadiene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Hexachlorocyclopentadiene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 08:50 PM
Hexachloroethane	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Indeno[1,2,3-cd]pyrene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Isophorone	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Methyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:58 PM
N-Nitrosodi-n-propylamine	<0.000100	0.000100	0.000800		mg/L	1	09/10/12 08:50 PM
N-Nitrosodimethylamine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM

Qualifiers:

- * Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern
- MDL Method Detection Limit
- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
DF Dilution Factor
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
S Spike Recovery outside control limits

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-HMW-059-0912
Lab ID: 1209014-06
Collection Date: 09/04/12 03:00 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
SEMIVOLATILES BY GC/MS - WATER							
					SW8270D		Analyst: DO
N-Nitrosodiphenylamine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
N-Nitrosopiperidine	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:58 PM
Naphthalene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Nitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
p-Dimethylaminoazobenzene	<0.000200	0.000200	0.000800	N	mg/L	1	09/10/12 09:58 PM
Pentachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Pentachloronitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:58 PM
Pentachlorophenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Phenacetin	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:58 PM
Phenanthrene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Phenol	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Pronamide	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 09:58 PM
Pyrene	<0.000200	0.000200	0.000800		mg/L	1	09/10/12 08:50 PM
Pyridine	<0.000800	0.000800	0.00200		mg/L	1	09/10/12 08:50 PM
Surr: 2,4,6-Tribromophenol	98.3	0	42-124	%REC	1	09/10/12 08:50 PM	
Surr: 2,4,6-Tribromophenol	88.8	0	42-124	%REC	1	09/10/12 09:58 PM	
Surr: 2-Fluorobiphenyl	85.0	0	50-110	%REC	1	09/10/12 08:50 PM	
Surr: 2-Fluorobiphenyl	88.8	0	50-110	%REC	1	09/10/12 09:58 PM	
Surr: 2-Fluorophenol	66.0	0	20-110	%REC	1	09/10/12 08:50 PM	
Surr: 2-Fluorophenol	73.0	0	20-110	%REC	1	09/10/12 09:58 PM	
Surr: 4-Terphenyl-d14	98.8	0	51-135	%REC	1	09/10/12 09:58 PM	
Surr: 4-Terphenyl-d14	99.5	0	51-135	%REC	1	09/10/12 08:50 PM	
Surr: Nitrobenzene-d5	82.5	0	41-110	%REC	1	09/10/12 08:50 PM	
Surr: Nitrobenzene-d5	89.8	0	41-110	%REC	1	09/10/12 09:58 PM	
Surr: Phenol-d6	48.8	0	20-115	%REC	1	09/10/12 08:50 PM	
Surr: Phenol-d6	51.3	0	20-115	%REC	1	09/10/12 09:58 PM	
8260 WATER VOLATILES BY GC/MS							
					SW8260C		Analyst: KL
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 01:31 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:31 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 01:31 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 01:31 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level
C Sample Result or QC discussed in the Case Narrative
E TPH pattern not Gas or Diesel Range Pattern
MDL Method Detection Limit
RL Reporting Limit
N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
DF Dilution Factor
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
S Spike Recovery outside control limits

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-HMW-059-0912
Lab ID: 1209014-06
Collection Date: 09/04/12 03:00 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS							
		SW8260C					Analyst: KL
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	09/10/12 01:31 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:31 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:31 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	09/10/12 01:31 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:31 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	09/10/12 01:31 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:31 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 01:31 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 01:31 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:31 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 01:31 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:31 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 01:31 PM
Acetone	0.00956	0.00500	0.0150	J	mg/L	1	09/10/12 01:31 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	09/10/12 01:31 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:31 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 01:31 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:31 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:31 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:31 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:31 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	09/10/12 01:31 PM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level
C Sample Result or QC discussed in the Case Narrative
E TPH pattern not Gas or Diesel Range Pattern
MDL Method Detection Limit
RL Reporting Limit
N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
DF Dilution Factor
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
S Spike Recovery outside control limits

DHL Analytical

Date: 20-Sep-12

CLIENT: Zia Engineering & Environmental
Project: HELSTF Construction Landfill
Project No:
Lab Order: 1209014

Client Sample ID: HLSF-3839-HMW-059-0912
Lab ID: 1209014-06
Collection Date: 09/04/12 03:00 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS							
		SW8260C					Analyst: KL
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 01:31 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:31 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	09/10/12 01:31 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:31 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:31 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:31 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:31 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:31 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/10/12 01:31 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 01:31 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 01:31 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/10/12 01:31 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	09/10/12 01:31 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	09/10/12 01:31 PM
Surr: 1,2-Dichloroethane-d4	91.7	0	70-120	%REC	1	09/10/12 01:31 PM	
Surr: 4-Bromofluorobenzene	94.8	0	75-120	%REC	1	09/10/12 01:31 PM	
Surr: Dibromofluoromethane	93.3	0	85-115	%REC	1	09/10/12 01:31 PM	
Surr: Toluene-d8	91.1	0	85-120	%REC	1	09/10/12 01:31 PM	
ANIONS BY IC METHOD - WATER							
		E300					Analyst: JBC
Chloride	1030	30.0	100		mg/L	100	09/05/12 01:04 PM
Sulfate	6990	100	300		mg/L	100	09/05/12 01:04 PM
ALKALINITY							
		M2320 B					Analyst: JBC
Alkalinity, Bicarbonate (As CaCO ₃)	178	10.0	20.0		mg/L	1	09/05/12 12:18 PM
Alkalinity, Carbonate (As CaCO ₃)	<10.0	10.0	20.0		mg/L	1	09/05/12 12:18 PM
Alkalinity, Hydroxide (As CaCO ₃)	<10.0	10.0	20.0		mg/L	1	09/05/12 12:18 PM
Alkalinity, Total (As CaCO ₃)	178	10.0	20.0		mg/L	1	09/05/12 12:18 PM
PH							
		M4500-H+ B					Analyst: JBC
pH	7.80	0	0		pH Units	1	09/05/12 11:35 AM
TOTAL ORGANIC CARBON							
		M5310C					Analyst: JCG
Total Organic Carbon	<0.600	0.600	2.00		mg/L	2	09/19/12 11:34 AM

Qualifiers: * Value exceeds TCLP Maximum Concentration Level
 C Sample Result or QC discussed in the Case Narrative
 E TPH pattern not Gas or Diesel Range Pattern
 MDL Method Detection Limit
 RL Reporting Limit
 N Parameter not NELAC certified

B Analyte detected in the associated Method Blank
 DF Dilution Factor
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 S Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT**RunID:** GC15_120909A

The QC data in batch 53724 applies to the following samples: 1209014-01H, 1209014-04H, 1209014-06H

Sample ID: LCS-53724	Batch ID: 53724	TestNo: M8015D	Units: mg/L							
SampType: LCS	Run ID: GC15_120909A	Analysis Date: 9/9/2012 7:31:12 PM	Prep Date: 9/7/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.06	0.100	1.250	0	85.0	50	114			
Surr: Isopropylbenzene	0.0494		0.1000		49.4	47	142			
Surr: Octacosane	0.101		0.1000		101	51	124			
Sample ID: MB-53724	Batch ID: 53724	TestNo: M8015D	Units: mg/L							
SampType: MBLK	Run ID: GC15_120909A	Analysis Date: 9/9/2012 8:07:08 PM	Prep Date: 9/7/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	<0.0800	0.100								
Surr: Isopropylbenzene	0.0596		0.1000		59.6	47	142			
Surr: Octacosane	0.112		0.1000		112	51	124			
Sample ID: 1209014-01HMS	Batch ID: 53724	TestNo: M8015D	Units: mg/L							
SampType: MS	Run ID: GC15_120909A	Analysis Date: 9/9/2012 11:42:24 PM	Prep Date: 9/7/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.08	0.100	1.250	0	86.6	50	114			
Surr: Isopropylbenzene	0.0608		0.1000		60.8	47	142			
Surr: Octacosane	0.113		0.1000		113	51	124			
Sample ID: 1209014-01HMSD	Batch ID: 53724	TestNo: M8015D	Units: mg/L							
SampType: MSD	Run ID: GC15_120909A	Analysis Date: 9/9/2012 11:51:21 PM	Prep Date: 9/7/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.14	0.100	1.250	0	91.4	50	114	5.37	30	
Surr: Isopropylbenzene	0.0578		0.1000		57.8	47	142	0	0	
Surr: Octacosane	0.108		0.1000		108	51	124	0	0	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

Page 1 of 52

CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GC15_120909A

Sample ID: ICV-120909	Batch ID: R62452	TestNo: M8015D			Units: mg/L					
SampType: ICV	Run ID: GC15_120909A	Analysis Date: 9/9/2012 7:19:02 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	532	0.100	500.0	0	106	80	120			
Surr: Isopropylbenzene	24.1		25.00		96.6	80	120			
Surr: Octacosane	27.8		25.00		111	80	120			
Sample ID: CCV1-120909	Batch ID: R62452	TestNo: M8015D			Units: mg/L					
SampType: CCV	Run ID: GC15_120909A	Analysis Date: 9/9/2012 9:18:52 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	264	0.100	250.0	0	106	80	120			
Surr: Isopropylbenzene	11.9		12.50		95.2	80	120			
Surr: Octacosane	13.9		12.50		111	80	120			
Sample ID: CCV2-120909	Batch ID: R62452	TestNo: M8015D			Units: mg/L					
SampType: CCV	Run ID: GC15_120909A	Analysis Date: 9/9/2012 11:15:31 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	252	0.100	250.0	0	101	80	120			
Surr: Isopropylbenzene	12.3		12.50		98.2	80	120			
Surr: Octacosane	14.4		12.50		115	80	120			
Sample ID: CCV3-120909	Batch ID: R62452	TestNo: M8015D			Units: mg/L					
SampType: CCV	Run ID: GC15_120909A	Analysis Date: 9/10/2012 12:00:22 AM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	268	0.100	250.0	0	107	80	120			
Surr: Isopropylbenzene	13.0		12.50		104	80	120			
Surr: Octacosane	14.6		12.50		117	80	120			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_120905A

The QC data in batch 53683 applies to the following samples: 1209014-01B, 1209014-04B, 1209014-06B

Sample ID: LCS-53683	Batch ID: 53683	TestNo: M8015V	Units: mg/L							
SampType: LCS	Run ID: GC4_120905A	Analysis Date: 9/5/2012 12:54:08 PM	Prep Date: 9/5/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	4.66	0.100	5.000	0	93.2	67	136			
Surr: Tetrachlorethene	0.402		0.4000		101	74	138			
Sample ID: MB-53683	Batch ID: 53683	TestNo: M8015V	Units: mg/L							
SampType: MBLK	Run ID: GC4_120905A	Analysis Date: 9/5/2012 1:44:28 PM	Prep Date: 9/5/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	<0.0600	0.100								
Surr: Tetrachlorethene	0.402		0.4000		100	74	138			
Sample ID: 1209014-01BMS	Batch ID: 53683	TestNo: M8015V	Units: mg/L							
SampType: MS	Run ID: GC4_120905A	Analysis Date: 9/5/2012 5:06:14 PM	Prep Date: 9/5/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	4.93	0.100	5.000	0	98.5	67	136			
Surr: Tetrachlorethene	0.408		0.4000		102	74	138			
Sample ID: 1209014-01BMSD	Batch ID: 53683	TestNo: M8015V	Units: mg/L							
SampType: MSD	Run ID: GC4_120905A	Analysis Date: 9/5/2012 5:31:01 PM	Prep Date: 9/5/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	4.81	0.100	5.000	0	96.3	67	136	2.34	30	
Surr: Tetrachlorethene	0.377		0.4000		94.3	74	138	0	0	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_120905A

Sample ID: ICV-120905	Batch ID: R62382	TestNo:	M8015V	Units:	mg/L					
SampType: ICV	Run ID: GC4_120905A	Analysis Date: 9/5/2012 12:28:24 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	9.11	0.100	10.00	0	91.1	80	120			
Surr: Tetrachlorethene	0.399		0.4000		99.7	74	138			

Sample ID: CCV1-120905	Batch ID: R62382	TestNo:	M8015V	Units:	mg/L					
SampType: CCV	Run ID: GC4_120905A	Analysis Date: 9/5/2012 5:57:15 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	4.73	0.100	5.000	0	94.6	80	120			
Surr: Tetrachlorethene	0.342		0.4000		85.6	74	138			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC_HG_120914B

The QC data in batch 53816 applies to the following samples: 1209014-01D, 1209014-01E, 1209014-04D, 1209014-04E, 1209014-06D, 1209014-06E

Sample ID: 1209014-01E MS	Batch ID: 53816	TestNo: SW7470A	Units: mg/L					
SampType: MS	Run ID: CETAC_HG_120914B	Analysis Date: 9/14/2012 2:23:58 PM	Prep Date: 9/13/2012					
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual								
Mercury	0.00202	0.000200	0.00200	0	101	80	120	
Mercury	0.00202	0.000200	0.00200	0	101	80	120	

Sample ID: 1209014-01E MSD	Batch ID: 53816	TestNo: SW7470A	Units: mg/L						
SampType: MSD	Run ID: CETAC_HG_120914B	Analysis Date: 9/14/2012 2:26:05 PM	Prep Date: 9/13/2012						
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual									
Mercury	0.00207	0.000200	0.00200	0	104	80	120	2.44	15
Mercury	0.00207	0.000200	0.00200	0	104	80	120	2.44	15

The QC data in batch 53816 applies to the following samples: 1209014-01D, 1209014-01E, 1209014-04D, 1209014-04E, 1209014-06D, 1209014-06E									
Sample ID: MB-53816	Batch ID: 53816	TestNo: SW7470A	Units: mg/L						
SampType: MBLK	Run ID: CETAC_HG_120914B	Analysis Date: 9/14/2012 1:38:51 PM	Prep Date: 9/13/2012						
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual									
Mercury	<0.0000600	0.000200							

Sample ID: LCS-53816	Batch ID: 53816	TestNo: SW7470A	Units: mg/L						
SampType: LCS	Run ID: CETAC_HG_120914B	Analysis Date: 9/14/2012 1:44:58 PM	Prep Date: 9/13/2012						
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual									
Mercury	0.00182	0.000200	0.00200	0	91.0	85	115		
Mercury	0.00182	0.000200	0.00200	0	91.0	85	115		

Sample ID: LCSD-53816	Batch ID: 53816	TestNo: SW7470A	Units: mg/L						
SampType: LCSD	Run ID: CETAC_HG_120914B	Analysis Date: 9/14/2012 1:47:00 PM	Prep Date: 9/13/2012						
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual									
Mercury	0.00190	0.000200	0.00200	0	95.0	85	115	4.30	15
Mercury	0.00190	0.000200	0.00200	0	95.0	85	115	4.30	15

Sample ID: 1209014-01D SD	Batch ID: 53816	TestNo: SW7470A	Units: mg/L						
SampType: SD	Run ID: CETAC_HG_120914B	Analysis Date: 9/14/2012 2:09:34 PM	Prep Date: 9/13/2012						
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual									
Mercury	<0.000300	0.00100	0	0				0	10
Mercury	<0.000300	0.00100	0	0				0	10

Sample ID: 1209014-01D PDS	Batch ID: 53816	TestNo: SW7470A	Units: mg/L						
SampType: PDS	Run ID: CETAC_HG_120914B	Analysis Date: 9/14/2012 2:11:36 PM	Prep Date: 9/13/2012						
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual									
Mercury	0.00246	0.000200	0.00250	0	98.4	85	115		
Mercury	0.00246	0.000200	0.00250	0	98.4	85	115		

Qualifiers:	B	Analyte detected in the associated Method Blank
	J	Analyte detected between MDL and RL
	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit
	J	Analyte detected between SDL and RL

DF	Dilution Factor
MDL	Method Detection Limit
R	RPD outside accepted control limits
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC_HG_120914B

Sample ID: 1209014-01D MS	Batch ID: 53816	TestNo:	SW7470A	Units:	mg/L					
SampType: MS	Run ID: CETAC_HG_120914B	Analysis Date:	9/14/2012 2:13:40 PM	Prep Date:	9/13/2012					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00220	0.000200	0.00200	0	110	80	120			
Sample ID: 1209014-01D MSD	Batch ID: 53816	TestNo:	SW7470A	Units:	mg/L					
SampType: MSD	Run ID: CETAC_HG_120914B	Analysis Date:	9/14/2012 2:15:43 PM	Prep Date:	9/13/2012					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00195	0.000200	0.00200	0	97.5	80	120	12.0	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC_HG_120914B

Sample ID: ICV-120914	Batch ID: R62562	TestNo:	SW7470A	Units:	mg/L					
SampType: ICV	Run ID: CETAC_HG_120914B	Analysis Date: 9/14/2012 1:30:42 PM		Prep Date:						
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00361	0.000200	0.00400	0	90.2	90	110			
Sample ID: CCV1-120914	Batch ID: R62562	TestNo: SW7470A		Units:	mg/L					
SampType: CCV	Run ID: CETAC_HG_120914B	Analysis Date: 9/14/2012 1:55:13 PM		Prep Date:						
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00204	0.000200	0.00200	0	102	90	110			
Sample ID: CCV2-120914	Batch ID: R62562	TestNo: SW7470A		Units:	mg/L					
SampType: CCV	Run ID: CETAC_HG_120914B	Analysis Date: 9/14/2012 2:19:51 PM		Prep Date:						
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00201	0.000200	0.00200	0	101	90	110			
Sample ID: CCV3-120914	Batch ID: R62562	TestNo: SW7470A		Units:	mg/L					
SampType: CCV	Run ID: CETAC_HG_120914B	Analysis Date: 9/14/2012 2:40:35 PM		Prep Date:						
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00202	0.000200	0.00200	0	101	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS2_120913C

The QC data in batch 53793 applies to the following samples: 1209014-01D, 1209014-04D, 1209014-06D

Sample ID: MB-53793	Batch ID: 53793	TestNo: SW6020	Units: mg/L							
SampType: MBLK	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 1:36:00 PM	Prep Date: 9/12/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	<0.00200	0.00600								
Barium	<0.00300	0.0100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00600								
Lead	<0.000300	0.00100								
Magnesium	<0.100	0.300								
Potassium	<0.100	0.300								
Selenium	<0.00200	0.00600								
Silver	<0.000600	0.00200								
Sodium	<0.100	0.300								

Sample ID: LCS-53793	Batch ID: 53793	TestNo: SW6020	Units: mg/L							
SampType: LCS	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 2:30:00 PM	Prep Date: 9/12/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.203	0.00600	0.200	0	101	80	120			
Barium	0.188	0.0100	0.200	0	94.0	80	120			
Cadmium	0.189	0.00100	0.200	0	94.6	80	120			
Calcium	4.75	0.300	5.00	0	95.0	80	120			
Chromium	0.205	0.00600	0.200	0	103	80	120			
Lead	0.185	0.00100	0.200	0	92.6	80	120			
Magnesium	4.95	0.300	5.00	0	98.9	80	120			
Potassium	5.08	0.300	5.00	0	102	80	120			
Selenium	0.212	0.00600	0.200	0	106	80	120			
Silver	0.192	0.00200	0.200	0	96.0	80	120			
Sodium	4.92	0.300	5.00	0	98.3	80	120			

Sample ID: LCSD-53793	Batch ID: 53793	TestNo: SW6020	Units: mg/L							
SampType: LCSD	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 2:36:00 PM	Prep Date: 9/12/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.198	0.00600	0.200	0	99.0	80	120	2.35	15	
Barium	0.185	0.0100	0.200	0	92.4	80	120	1.61	15	
Cadmium	0.184	0.00100	0.200	0	92.2	80	120	2.62	15	
Calcium	4.62	0.300	5.00	0	92.4	80	120	2.71	15	
Chromium	0.199	0.00600	0.200	0	99.4	80	120	3.22	15	
Lead	0.184	0.00100	0.200	0	92.0	80	120	0.596	15	
Magnesium	4.73	0.300	5.00	0	94.6	80	120	4.51	15	
Potassium	4.89	0.300	5.00	0	97.7	80	120	3.95	15	

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS2_120913C

Sample ID: LCSD-53793	Batch ID: 53793	TestNo: SW6020	Units: mg/L
SampType: LCSD	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 2:36:00 PM	Prep Date: 9/12/2012
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual			
Selenium 0.205 0.00600 0.200 0 103 80 120 3.12 15			
Silver 0.190 0.00200 0.200 0 94.8 80 120 1.26 15			
Sodium 4.70 0.300 5.00 0 94.0 80 120 4.49 15			
Sample ID: 1209014-01D SD Batch ID: 53793 TestNo: SW6020 Units: mg/L			
SampType: SD	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 2:54:00 PM	Prep Date: 9/12/2012
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual			
Calcium 399 150 0 413 413 399 413 3.43 10			
Magnesium 242 150 0 247 247 242 247 2.04 10			
Potassium <50.0 150 0 48.8 48.8 48.8 48.8 0 10			
Sodium 2190 150 0 2250 2250 2190 2250 2.71 10			
Sample ID: 1209014-01D PDS Batch ID: 53793 TestNo: SW6020 Units: mg/L			
SampType: PDS	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 3:41:00 PM	Prep Date: 9/12/2012
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual			
Calcium 937 30.0 500 413 105 75 125 937			
Magnesium 876 30.0 500 247 126 75 125 876			
Potassium 618 30.0 500 48.8 114 75 125 618			
Sodium 3280 30.0 500 2250 207 75 125 3280			
Sample ID: 1209014-01D MS Batch ID: 53793 TestNo: SW6020 Units: mg/L			
SampType: MS	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 3:47:00 PM	Prep Date: 9/12/2012
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual			
Calcium 451 30.0 5.00 413 746 80 120 451			
Magnesium 298 30.0 5.00 247 1000 80 120 298			
Potassium 55.9 30.0 5.00 48.8 142 80 120 55.9			
Sodium 2410 30.0 5.00 2250 3300 80 120 2410			
Sample ID: 1209014-01D MSD Batch ID: 53793 TestNo: SW6020 Units: mg/L			
SampType: MSD	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 3:53:00 PM	Prep Date: 9/12/2012
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual			
Calcium 445 30.0 5.00 413 640 80 120 1.18 15 S			
Magnesium 299 30.0 5.00 247 1040 80 120 299			
Potassium 57.2 30.0 5.00 48.8 168 80 120 57.2			
Sodium 2490 30.0 5.00 2250 4960 80 120 2490			

Qualifiers: B Analyte detected in the associated Method Blank
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 J Analyte detected between SDL and RL

DF Dilution Factor
 MDL Method Detection Limit
 R RPD outside accepted control limits
 S Spike Recovery outside control limits
 N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS2_120913C

The QC data in batch 53814 applies to the following samples: 1209014-01E, 1209014-04E, 1209014-06E

Sample ID: MB-53814	Batch ID: 53814	TestNo: SW6020	Units: mg/L
SampType: MBLK	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 9:35:00 PM	Prep Date: 9/13/2012

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	<0.00200	0.00600								
Barium	<0.00300	0.0100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00600								
Lead	<0.000300	0.00100								
Magnesium	<0.100	0.300								
Potassium	<0.100	0.300								
Selenium	<0.00200	0.00600								
Silver	<0.000600	0.00200								

Sample ID: LCS-53814	Batch ID: 53814	TestNo: SW6020	Units: mg/L
SampType: LCS	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 9:47:00 PM	Prep Date: 9/13/2012

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.196	0.00600	0.200	0	98.0	80	120			
Barium	0.189	0.0100	0.200	0	94.4	80	120			
Cadmium	0.189	0.00100	0.200	0	94.5	80	120			
Calcium	4.88	0.300	5.00	0	97.7	80	120			
Chromium	0.192	0.00600	0.200	0	96.2	80	120			
Lead	0.190	0.00100	0.200	0	94.8	80	120			
Magnesium	4.89	0.300	5.00	0	97.7	80	120			
Potassium	5.08	0.300	5.00	0	102	80	120			
Selenium	0.199	0.00600	0.200	0	99.6	80	120			
Silver	0.197	0.00200	0.200	0	98.4	80	120			

Sample ID: LCSD-53814	Batch ID: 53814	TestNo: SW6020	Units: mg/L
SampType: LCSD	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 9:53:00 PM	Prep Date: 9/13/2012

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.203	0.00600	0.200	0	101	80	120	3.41	15	
Barium	0.187	0.0100	0.200	0	93.3	80	120	1.12	15	
Cadmium	0.190	0.00100	0.200	0	94.8	80	120	0.317	15	
Calcium	4.97	0.300	5.00	0	99.5	80	120	1.81	15	
Chromium	0.196	0.00600	0.200	0	98.1	80	120	1.96	15	
Lead	0.190	0.00100	0.200	0	94.8	80	120	0	15	
Magnesium	4.93	0.300	5.00	0	98.7	80	120	0.978	15	
Potassium	5.09	0.300	5.00	0	102	80	120	0.275	15	
Selenium	0.202	0.00600	0.200	0	101	80	120	1.35	15	
Silver	0.196	0.00200	0.200	0	98.1	80	120	0.356	15	

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS2_120913C

Sample ID: 1209014-01E SD		Batch ID: 53814		TestNo: SW6020		Units: mg/L				
SampType: SD	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 10:10:00 PM				Prep Date: 9/13/2012				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	<0.0100	0.0300	0	0.00254		0	10			
Barium	0.0161	0.0500	0	0.0156		3.22	10			
Cadmium	<0.00150	0.00500	0	0		0	10			
Chromium	0.0335	0.0300	0	0.0300		10.8	10	R		
Lead	<0.00150	0.00500	0	0		0	10			
Selenium	0.0520	0.0300	0	0.0574		9.69	10			
Silver	<0.00300	0.0100	0	0		0	10			
Sample ID: 1209014-01E PDS		Batch ID: 53814		TestNo: SW6020		Units: mg/L				
SampType: PDS	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 10:22:00 PM				Prep Date: 9/13/2012				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.189	0.00600	0.200	0.00254	93.2	75	125			
Barium	0.185	0.0100	0.200	0.0156	84.9	75	125			
Cadmium	0.145	0.00100	0.200	0	72.4	75	125			S
Chromium	0.185	0.00600	0.200	0.0300	77.7	75	125			
Lead	0.175	0.00100	0.200	0	87.4	75	125			
Selenium	0.255	0.00600	0.200	0.0574	98.7	75	125			
Silver	0.157	0.00200	0.200	0	78.6	75	125			
Sample ID: 1209014-01E MS		Batch ID: 53814		TestNo: SW6020		Units: mg/L				
SampType: MS	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 10:28:00 PM				Prep Date: 9/13/2012				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.198	0.00600	0.200	0.00254	98.0	80	120			
Barium	0.193	0.0100	0.200	0.0156	88.9	80	120			
Cadmium	0.154	0.00100	0.200	0	77.0	80	120			S
Calcium	385	0.300	5.00	388	-64.0	80	120			S
Chromium	0.188	0.00600	0.200	0.0300	79.2	80	120			S
Lead	0.188	0.00100	0.200	0	94.2	80	120			
Magnesium	237	0.300	5.00	213	468	80	120			S
Potassium	50.6	0.300	5.00	44.0	133	80	120			S
Selenium	0.261	0.00600	0.200	0.0574	102	80	120			
Silver	0.164	0.00200	0.200	0	82.0	80	120			
Sample ID: 1209014-01E MSD		Batch ID: 53814		TestNo: SW6020		Units: mg/L				
SampType: MSD	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 10:34:00 PM				Prep Date: 9/13/2012				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.200	0.00600	0.200	0.00254	98.8	80	120	0.803	15	
Barium	0.199	0.0100	0.200	0.0156	91.6	80	120	2.70	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS2_120913C

Sample ID: 1209014-01E MSD		Batch ID: 53814		TestNo: SW6020		Units: mg/L				
SampType: MSD	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 10:34:00 PM				Prep Date: 9/13/2012				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.156	0.00100	0.200	0	78.0	80	120	1.36	15	S
Calcium	388	0.300	5.00	388	-2.00	80	120	0.803	15	S
Chromium	0.188	0.00600	0.200	0.0300	79.1	80	120	0.053	15	S
Lead	0.190	0.00100	0.200	0	95.0	80	120	0.740	15	
Magnesium	244	0.300	5.00	213	610	80	120	2.95	15	S
Potassium	52.3	0.300	5.00	44.0	167	80	120	3.28	15	S
Selenium	0.271	0.00600	0.200	0.0574	107	80	120	3.57	15	
Silver	0.167	0.00200	0.200	0	83.4	80	120	1.63	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS2_120913C

Sample ID: ICV1-120913	Batch ID: R62552	TestNo: SW6020		Units: mg/L						
SampType: ICV	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 1:02:00 PM		Prep Date:						
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0967	0.00600	0.100	0	96.7	90	110			
Barium	0.0949	0.0100	0.100	0	94.9	90	110			
Cadmium	0.0940	0.00100	0.100	0	94.0	90	110			
Calcium	2.47	0.300	2.50	0	98.6	90	110			
Chromium	0.102	0.00600	0.100	0	102	90	110			
Lead	0.0926	0.00100	0.100	0	92.6	90	110			
Magnesium	2.53	0.300	2.50	0	101	90	110			
Potassium	2.62	0.300	2.50	0	105	90	110			
Selenium	0.106	0.00600	0.100	0	106	90	110			
Silver	0.101	0.00200	0.100	0	101	90	110			
Sodium	2.49	0.300	2.50	0	99.7	90	110			
Sample ID: CCV1-120913	Batch ID: R62552	TestNo: SW6020		Units: mg/L						
SampType: CCV	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 4:05:00 PM		Prep Date:						
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.195	0.00600	0.200	0	97.5	90	110			
Barium	0.186	0.0100	0.200	0	93.1	90	110			
Cadmium	0.185	0.00100	0.200	0	92.5	90	110			
Calcium	5.04	0.300	5.00	0	101	90	110			
Chromium	0.191	0.00600	0.200	0	95.4	90	110			
Lead	0.184	0.00100	0.200	0	91.8	90	110			
Magnesium	5.43	0.300	5.00	0	109	90	110			
Potassium	5.30	0.300	5.00	0	106	90	110			
Selenium	0.205	0.00600	0.200	0	103	90	110			
Silver	0.194	0.00200	0.200	0	97.2	90	110			
Sample ID: CCV1-120913	Batch ID: R62552	TestNo: SW6020		Units: mg/L						
SampType: CCV	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 4:24:00 PM		Prep Date:						
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	5.52	0.300	5.00	0	110	90	110			
Sample ID: CCV3-120913	Batch ID: R62552	TestNo: SW6020		Units: mg/L						
SampType: CCV	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 8:41:00 PM		Prep Date:						
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.208	0.00600	0.200	0	104	90	110			
Barium	0.199	0.0100	0.200	0	99.5	90	110			
Cadmium	0.201	0.00100	0.200	0	100	90	110			
Calcium	5.23	0.300	5.00	0	105	90	110			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS2_120913C

Sample ID: CCV3-120913	Batch ID: R62552	TestNo: SW6020		Units: mg/L						
SampType: CCV	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 8:41:00 PM		Prep Date:						
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.199	0.00600	0.200	0	99.4	90	110			
Lead	0.196	0.00100	0.200	0	98.0	90	110			
Magnesium	5.24	0.300	5.00	0	105	90	110			
Potassium	5.51	0.300	5.00	0	110	90	110			
Selenium	0.220	0.00600	0.200	0	110	90	110			
Silver	0.206	0.00200	0.200	0	103	90	110			

Sample ID: CCV4-120913	Batch ID: R62552	TestNo: SW6020		Units: mg/L						
SampType: CCV	Run ID: ICP-MS2_120913C	Analysis Date: 9/13/2012 10:57:00 PM		Prep Date:						
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.205	0.00600	0.200	0	102	90	110			
Barium	0.195	0.0100	0.200	0	97.4	90	110			
Cadmium	0.193	0.00100	0.200	0	96.7	90	110			
Calcium	5.18	0.300	5.00	0	104	90	110			
Chromium	0.191	0.00600	0.200	0	95.3	90	110			
Lead	0.196	0.00100	0.200	0	97.8	90	110			
Magnesium	5.23	0.300	5.00	0	105	90	110			
Potassium	5.33	0.300	5.00	0	107	90	110			
Selenium	0.206	0.00600	0.200	0	103	90	110			
Silver	0.202	0.00200	0.200	0	101	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_120914A

The QC data in batch 53793 applies to the following samples: 1209014-01D, 1209014-04D, 1209014-06D

Sample ID: 1209014-01D SD	Batch ID: 53793	TestNo: SW6020	Units: mg/L
SampType: SD	Run ID: ICP-MS3_120914A	Analysis Date: 9/14/2012 2:33:00 PM	Prep Date: 9/12/2012
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Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	<0.0100	0.0300	0	0.00267		0	10			
Barium	0.0172	0.0500	0	0.0170		1.23	10			
Cadmium	<0.00150	0.00500	0	0		0	10			
Chromium	0.0372	0.0300	0	0.0348		6.59	10			
Lead	<0.00150	0.00500	0	0		0	10			
Selenium	0.0576	0.0300	0	0.0658		13.3	10			R
Silver	<0.00300	0.0100	0	0		0	10			

Sample ID: 1209014-01D PDS	Batch ID: 53793	TestNo: SW6020	Units: mg/L
SampType: PDS	Run ID: ICP-MS3_120914A	Analysis Date: 9/14/2012 3:01:00 PM	Prep Date: 9/12/2012
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Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.202	0.00600	0.200	0.00267	99.9	75	125			
Barium	0.215	0.0100	0.200	0.0170	99.2	75	125			
Cadmium	0.169	0.00100	0.200	0	84.4	75	125			
Chromium	0.205	0.00600	0.200	0.0348	85.1	75	125			
Lead	0.199	0.00100	0.200	0	99.3	75	125			
Selenium	0.283	0.00600	0.200	0.0658	108	75	125			
Silver	0.171	0.00200	0.200	0	85.7	75	125			

Sample ID: 1209014-01D MS	Batch ID: 53793	TestNo: SW6020	Units: mg/L
SampType: MS	Run ID: ICP-MS3_120914A	Analysis Date: 9/14/2012 3:06:00 PM	Prep Date: 9/12/2012
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Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.210	0.00600	0.200	0.00267	104	80	120			
Barium	0.215	0.0100	0.200	0.0170	99.1	80	120			
Cadmium	0.172	0.00100	0.200	0	86.1	80	120			
Chromium	0.202	0.00600	0.200	0.0348	83.6	80	120			
Lead	0.204	0.00100	0.200	0	102	80	120			
Selenium	0.294	0.00600	0.200	0.0658	114	80	120			
Silver	0.170	0.00200	0.200	0	85.0	80	120			

Sample ID: 1209014-01D MSD	Batch ID: 53793	TestNo: SW6020	Units: mg/L
SampType: MSD	Run ID: ICP-MS3_120914A	Analysis Date: 9/14/2012 3:19:00 PM	Prep Date: 9/12/2012
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Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor	
	J Analyte detected between MDL and RL	MDL Method Detection Limit	
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits	
	RL Reporting Limit	S Spike Recovery outside control limits	
	J Analyte detected between SDL and RL	N Parameter not NELAC certified	

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_120914A

Sample ID: 1209014-01D MSD		Batch ID: 53793		TestNo: SW6020		Units: mg/L				
SampType: MSD	Run ID: ICP-MS3_120914A	Analysis Date: 9/14/2012 3:19:00 PM				Prep Date: 9/12/2012				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.206	0.00100	0.200	0	103	80	120	0.926	15	
Selenium	0.309	0.00600	0.200	0.0658	122	80	120	4.87	15	S
Silver	0.171	0.00200	0.200	0	85.7	80	120	0.761	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_120914A

The QC data in batch 53814 applies to the following samples: 1209014-01E, 1209014-04E, 1209014-06E

Sample ID: MB-53814	Batch ID: 53814	TestNo: SW6020	Units: mg/L								
SampType: MLBK	Run ID: ICP-MS3_120914A	Analysis Date: 9/14/2012 12:42:00 PM	Prep Date: 9/13/2012								
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual											
Sodium	<0.100	0.300									
Sample ID: LCS-53814	Batch ID: 53814	TestNo: SW6020	Units: mg/L								
SampType: LCS	Run ID: ICP-MS3_120914A	Analysis Date: 9/14/2012 1:00:00 PM	Prep Date: 9/13/2012								
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual											
Sodium	4.93	0.300	5.00	0	98.6	80	120				
Sample ID: LCSD-53814	Batch ID: 53814	TestNo: SW6020	Units: mg/L								
SampType: LCSD	Run ID: ICP-MS3_120914A	Analysis Date: 9/14/2012 1:06:00 PM	Prep Date: 9/13/2012								
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual											
Sodium	5.10	0.300	5.00	0	102	80	120	3.31	15		
Sample ID: 1209014-01E SD	Batch ID: 53814	TestNo: SW6020	Units: mg/L								
SampType: SD	Run ID: ICP-MS3_120914A	Analysis Date: 9/14/2012 1:23:00 PM	Prep Date: 9/13/2012								
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual											
Calcium	425	150	0	431				1.49	10		
Magnesium	254	150	0	257				1.25	10		
Potassium	<50.0	150	0	47.8				0	10		
Sodium	2300	150	0	2220				3.56	10		
Sample ID: 1209014-01E PDS	Batch ID: 53814	TestNo: SW6020	Units: mg/L								
SampType: PDS	Run ID: ICP-MS3_120914A	Analysis Date: 9/14/2012 1:34:00 PM	Prep Date: 9/13/2012								
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual											
Calcium	946	30.0	500	431	103	75	125				
Magnesium	756	30.0	500	257	99.7	75	125				
Potassium	544	30.0	500	47.8	99.2	75	125				
Sodium	2730	30.0	500	2220	101	75	125				
Sample ID: 1209014-01E MS	Batch ID: 53814	TestNo: SW6020	Units: mg/L								
SampType: MS	Run ID: ICP-MS3_120914A	Analysis Date: 9/14/2012 1:40:00 PM	Prep Date: 9/13/2012								
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual											
Sodium	2140	30.0	5.00	2220	-1580	80	120				S

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_120914A

Sample ID: 1209014-01E MSD	Batch ID: 53814	TestNo:	SW6020	Units:	mg/L
SampType: MSD	Run ID: ICP-MS3_120914A	Analysis Date:	9/14/2012 1:46:00 PM	Prep Date:	9/13/2012
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Analyte	Result	RL	SPK value	Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Sodium	2130	30.0	5.00	2220	-1760 80 120 0.421 15 S

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_120914A

Sample ID: ICV1-120914	Batch ID: R62568	TestNo: SW6020		Units:	mg/L					
SampType: ICV	Run ID: ICP-MS3_120914A	Analysis Date: 9/14/2012 12:15:00 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0959	0.00600	0.100	0	95.9	90	110			
Barium	0.0956	0.0100	0.100	0	95.6	90	110			
Cadmium	0.0943	0.00100	0.100	0	94.3	90	110			
Calcium	2.46	0.300	2.50	0	98.3	90	110			
Chromium	0.0996	0.00600	0.100	0	99.6	90	110			
Lead	0.0965	0.00100	0.100	0	96.5	90	110			
Magnesium	2.51	0.300	2.50	0	100	90	110			
Potassium	2.46	0.300	2.50	0	98.5	90	110			
Selenium	0.0996	0.00600	0.100	0	99.6	90	110			
Silver	0.0979	0.00200	0.100	0	97.9	90	110			
Sodium	2.44	0.300	2.50	0	97.4	90	110			
Sample ID: CCV1-120914	Batch ID: R62568	TestNo: SW6020		Units:	mg/L					
SampType: CCV	Run ID: ICP-MS3_120914A	Analysis Date: 9/14/2012 1:51:00 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.202	0.00600	0.200	0	101	90	110			
Barium	0.201	0.0100	0.200	0	101	90	110			
Cadmium	0.197	0.00100	0.200	0	98.7	90	110			
Calcium	5.19	0.300	5.00	0	104	90	110			
Chromium	0.193	0.00600	0.200	0	96.3	90	110			
Lead	0.204	0.00100	0.200	0	102	90	110			
Magnesium	5.05	0.300	5.00	0	101	90	110			
Potassium	5.07	0.300	5.00	0	101	90	110			
Selenium	0.206	0.00600	0.200	0	103	90	110			
Silver	0.198	0.00200	0.200	0	99.2	90	110			
Sodium	5.06	0.300	5.00	0	101	90	110			
Sample ID: CCV2-120914	Batch ID: R62568	TestNo: SW6020		Units:	mg/L					
SampType: CCV	Run ID: ICP-MS3_120914A	Analysis Date: 9/14/2012 3:31:00 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.207	0.00600	0.200	0	103	90	110			
Barium	0.202	0.0100	0.200	0	101	90	110			
Cadmium	0.200	0.00100	0.200	0	100	90	110			
Chromium	0.193	0.00600	0.200	0	96.4	90	110			
Lead	0.206	0.00100	0.200	0	103	90	110			
Selenium	0.213	0.00600	0.200	0	106	90	110			
Silver	0.200	0.00200	0.200	0	99.8	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_120914A

Sample ID: CCV3-120914	Batch ID: R62568	TestNo: SW6020	Units: mg/L							
SampType: CCV	Run ID: ICP-MS3_120914A	Analysis Date: 9/14/2012 6:01:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.210	0.00600	0.200	0	105	90	110			
Chromium	0.199	0.00600	0.200	0	99.6	90	110			
Selenium	0.218	0.00600	0.200	0	109	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS9_120910A

The QC data in batch 53747 applies to the following samples: 1209014-01G, 1209014-04G, 1209014-06G

Sample ID: LCS-53747	Batch ID: 53747	TestNo:	SW8270D		Units:	mg/L				
SampType: LCS	Run ID: GCMS9_120910A		Analysis Date: 9/10/2012 4:13:00 PM		Prep Date:	9/10/2012				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4,5-Tetrachlorobenzene	0.0555	0.000800	0.0800	0	69.3	35	120			
1,2-Diphenylhydrazine	0.0331	0.000800	0.0400	0	82.8	55	115			
1-Methylnaphthalene	0.0263	0.000800	0.0400	0	65.8	45	125			N
2,4,5-Trichlorophenol	0.0316	0.000800	0.0400	0	79.0	50	110			
2,4,6-Trichlorophenol	0.0314	0.000800	0.0400	0	78.5	50	115			
2,4-Dichlorophenol	0.0307	0.000800	0.0400	0	76.7	50	105			
2,4-Dimethylphenol	0.0322	0.000800	0.0400	0	80.6	30	110			
2,4-Dinitrophenol	0.0350	0.00400	0.0400	0	87.4	15	140			
2,4-Dinitrotoluene	0.0325	0.000800	0.0400	0	81.4	50	120			
2,6-Dichlorophenol	0.0305	0.000800	0.0400	0	76.2	35	120			
2,6-Dinitrotoluene	0.0316	0.000800	0.0400	0	79.0	50	115			
2-Chloronaphthalene	0.0366	0.000800	0.0400	0	91.4	50	105			
2-Chlorophenol	0.0330	0.000800	0.0400	0	82.6	35	105			
2-Methylnaphthalene	0.0288	0.000800	0.0400	0	72.0	45	105			
2-Methylphenol	0.0323	0.000800	0.0400	0	80.9	40	110			
2-Nitroaniline	0.0285	0.000800	0.0400	0	71.2	50	115			
2-Nitrophenol	0.0302	0.000800	0.0400	0	75.6	40	115			
3,3'-Dichlorobenzidine	0.0328	0.00400	0.0400	0	82.1	20	110			
3-Nitroaniline	0.0284	0.000800	0.0400	0	71.0	20	125			
4,6-Dinitro-2-methylphenol	0.0343	0.00200	0.0400	0	85.9	40	130			
4-Bromophenyl phenyl ether	0.0325	0.000800	0.0400	0	81.4	50	115			
4-Chloro-3-methylphenol	0.0326	0.000800	0.0400	0	81.6	45	110			
4-Chloroaniline	0.0239	0.00200	0.0400	0	59.8	15	110			
4-Chlorophenyl phenyl ether	0.0317	0.000800	0.0400	0	79.3	50	110			
4-Methylphenol	0.0323	0.000800	0.0400	0	80.8	30	110			
4-Nitroaniline	0.0270	0.000800	0.0400	0	67.4	35	120			
4-Nitrophenol	0.0196	0.00400	0.0400	0	48.9	20	120			
Acenaphthene	0.0303	0.000800	0.0400	0	75.8	45	110			
Acenaphthylene	0.0318	0.000800	0.0400	0	79.4	50	105			
Acetophenone	0.0624	0.000800	0.0800	0	78.0	45	125			
Aniline	0.0126	0.000800	0.0400	0	31.5	10	140			
Anthracene	0.0310	0.000800	0.0400	0	77.5	55	110			
Benzidine	0.00732	0.00600	0.0400	0	18.3	20	125			S
Benzo[a]anthracene	0.0330	0.000800	0.0400	0	82.6	55	110			
Benzo[a]pyrene	0.0346	0.000800	0.0400	0	86.6	55	110			
Benzo[b]fluoranthene	0.0367	0.000800	0.0400	0	91.7	45	120			
Benzo[g,h,i]perylene	0.0356	0.000800	0.0400	0	89.0	40	125			
Benzo[k]fluoranthene	0.0359	0.000800	0.0400	0	89.8	45	125			
Benzoic acid	0.00940	0.00600	0.0400	0	23.5	5	120			
Benzyl alcohol	0.0270	0.00200	0.0400	0	67.4	30	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS9_120910A

Sample ID: LCS-53747	Batch ID: 53747	TestNo: SW8270D	Units: mg/L							
SampType: LCS	Run ID: GCMS9_120910A	Analysis Date: 9/10/2012 4:13:00 PM Prep Date: 9/10/2012								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biphenyl	0.0293	0.000800	0.0400	0	73.2	45	125			
Bis(2-chloroethoxy)methane	0.0260	0.000800	0.0400	0	65.1	45	105			
Bis(2-chloroethyl)ether	0.0355	0.000800	0.0400	0	88.8	35	110			
Bis(2-chloroisopropyl)ether	0.0283	0.000800	0.0400	0	70.6	25	130			
Bis(2-ethylhexyl)phthalate	0.0345	0.00300	0.0400	0	86.2	40	125			
Butyl benzyl phthalate	0.0344	0.00600	0.0400	0	86.1	45	115			
Carbazole	0.0307	0.000800	0.0400	0	76.7	50	115			
Chrysene	0.0303	0.000800	0.0400	0	75.7	55	110			
Di-n-butyl phthalate	0.0375	0.00600	0.0400	0	93.9	55	115			
Di-n-octyl phthalate	0.0403	0.00600	0.0400	0	101	35	135			
Dibenz[a,h]anthracene	0.0368	0.000800	0.0400	0	92.1	40	125			
Dibenzofuran	0.0290	0.000800	0.0400	0	72.4	55	105			
Diethyl phthalate	0.0337	0.00600	0.0400	0	84.2	40	120			
Dimethyl phthalate	0.0316	0.00600	0.0400	0	78.9	25	125			
Fluoranthene	0.0331	0.000800	0.0400	0	82.8	55	115			
Fluorene	0.0317	0.000800	0.0400	0	79.2	50	110			
Hexachlorobenzene	0.0338	0.000800	0.0400	0	84.4	50	110			
Hexachlorobutadiene	0.0275	0.000800	0.0400	0	68.9	25	105			
Hexachlorocyclopentadiene	0.0265	0.00200	0.0400	0	66.2	25	125			
Hexachloroethane	0.0299	0.000800	0.0400	0	74.7	30	100			
Indeno[1,2,3-cd]pyrene	0.0372	0.000800	0.0400	0	93.1	45	125			
Isophorone	0.0297	0.000800	0.0400	0	74.4	50	110			
N-Nitrosodi-n-propylamine	0.0386	0.000800	0.0400	0	96.5	35	130			
N-Nitrosodimethylamine	0.0250	0.000800	0.0400	0	62.5	25	110			
N-Nitrosodiphenylamine	0.0709	0.000800	0.0800	0	88.7	50	110			
Naphthalene	0.0272	0.000800	0.0400	0	68.1	40	100			
Nitrobenzene	0.0292	0.000800	0.0400	0	73.0	45	110			
Pentachlorobenzene	0.0618	0.000800	0.0800	0	77.3	35	120			
Pentachlorophenol	0.0370	0.000800	0.0400	0	92.6	40	115			
Phenanthrene	0.0288	0.000800	0.0400	0	72.0	50	115			
Phenol	0.0198	0.000800	0.0400	0	49.4	20	115			
Pyrene	0.0316	0.000800	0.0400	0	79.0	50	130			
Pyridine	0.0218	0.00200	0.0400	0	54.4	20	110			
Surr: 2,4,6-Tribromophenol	83.2		80.00		104	42	124			
Surr: 2-Fluorobiphenyl	68.6		80.00		85.8	50	110			
Surr: 2-Fluorophenol	62.0		80.00		77.5	20	110			
Surr: 4-Terphenyl-d14	80.2		80.00		100	51	135			
Surr: Nitrobenzene-d5	66.8		80.00		83.5	41	110			
Surr: Phenol-d6	46.6		80.00		58.2	20	115			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS9_120910A

Sample ID: 1209014-01GMS	Batch ID: 53747	TestNo: SW8270D		Units:	mg/L					
SampType: MS	Run ID: GCMS9_120910A	Analysis Date: 9/10/2012 5:22:00 PM			Prep Date: 9/10/2012					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4,5-Tetrachlorobenzene	0.0577	0.000800	0.0800	0	72.2	35	120			
1,2-Diphenylhydrazine	0.0328	0.000800	0.0400	0	82.0	55	115			
1-Methylnaphthalene	0.0273	0.000800	0.0400	0	68.2	45	125			N
2,4,5-Trichlorophenol	0.0317	0.000800	0.0400	0	79.2	50	110			
2,4,6-Trichlorophenol	0.0310	0.000800	0.0400	0	77.6	50	115			
2,4-Dichlorophenol	0.0306	0.000800	0.0400	0	76.5	50	105			
2,4-Dimethylphenol	0.0315	0.000800	0.0400	0	78.7	30	110			
2,4-Dinitrophenol	0.0352	0.00400	0.0400	0	88.0	15	140			
2,4-Dinitrotoluene	0.0327	0.000800	0.0400	0	81.6	50	120			
2,6-Dichlorophenol	0.0300	0.000800	0.0400	0	75.0	35	120			
2,6-Dinitrotoluene	0.0334	0.000800	0.0400	0	83.6	50	115			
2-Chloronaphthalene	0.0375	0.000800	0.0400	0	93.8	50	105			
2-Chlorophenol	0.0326	0.000800	0.0400	0	81.4	35	105			
2-Methylnaphthalene	0.0288	0.000800	0.0400	0	72.0	45	105			
2-Methylphenol	0.0319	0.000800	0.0400	0	79.9	40	110			
2-Nitroaniline	0.0289	0.000800	0.0400	0	72.2	50	115			
2-Nitrophenol	0.0305	0.000800	0.0400	0	76.4	40	115			
3,3'-Dichlorobenzidine	0.0308	0.00400	0.0400	0	77.0	20	110			
3-Nitroaniline	0.0289	0.000800	0.0400	0	72.2	20	125			
4,6-Dinitro-2-methylphenol	0.0334	0.00200	0.0400	0	83.4	40	130			
4-Bromophenyl phenyl ether	0.0328	0.000800	0.0400	0	82.1	50	115			
4-Chloro-3-methylphenol	0.0323	0.000800	0.0400	0	80.8	45	110			
4-Chloroaniline	0.0237	0.00200	0.0400	0	59.2	15	110			
4-Chlorophenyl phenyl ether	0.0330	0.000800	0.0400	0	82.5	50	110			
4-Methylphenol	0.0307	0.000800	0.0400	0	76.7	30	110			
4-Nitroaniline	0.0268	0.000800	0.0400	0	67.0	35	120			
4-Nitrophenol	0.0166	0.00400	0.0400	0	41.6	20	120			
Acenaphthene	0.0307	0.000800	0.0400	0	76.7	45	110			
Acenaphthylene	0.0326	0.000800	0.0400	0	81.5	50	105			
Acetophenone	0.0625	0.000800	0.0800	0	78.1	45	125			
Aniline	0.0124	0.000800	0.0400	0	30.9	10	140			
Anthracene	0.0305	0.000800	0.0400	0	76.2	55	110			
Benzidine	0.0209	0.00600	0.0400	0	52.2	20	125			
Benzo[a]anthracene	0.0331	0.000800	0.0400	0	82.7	55	110			
Benzo[a]pyrene	0.0355	0.000800	0.0400	0	88.6	55	110			
Benzo[b]fluoranthene	0.0351	0.000800	0.0400	0	87.6	45	120			
Benzo[g,h,i]perylene	0.0348	0.000800	0.0400	0	87.1	40	125			
Benzo[k]fluoranthene	0.0362	0.000800	0.0400	0	90.4	45	125			
Benzoic acid	0.00960	0.00600	0.0400	0.00670	7.25	5	120			
Benzyl alcohol	0.0264	0.00200	0.0400	0	66.0	30	110			
Biphenyl	0.0301	0.000800	0.0400	0	75.4	45	125			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS9_120910A

Sample ID: 1209014-01GMS	Batch ID: 53747	TestNo:	SW8270D	Units:	mg/L					
SampType: MS	Run ID: GCMS9_120910A	Analysis Date: 9/10/2012 5:22:00 PM			Prep Date: 9/10/2012					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bis(2-chloroethoxy)methane	0.0260	0.000800	0.0400	0	65.1	45	105			
Bis(2-chloroethyl)ether	0.0419	0.000800	0.0400	0	105	35	110			
Bis(2-chloroisopropyl)ether	0.0284	0.000800	0.0400	0	71.1	25	130			
Bis(2-ethylhexyl)phthalate	0.0342	0.00300	0.0400	0	85.6	40	125			
Butyl benzyl phthalate	0.0341	0.00600	0.0400	0	85.3	45	115			
Carbazole	0.0294	0.000800	0.0400	0	73.5	50	115			
Chrysene	0.0301	0.000800	0.0400	0	75.4	55	110			
Di-n-butyl phthalate	0.0362	0.00600	0.0400	0	90.4	55	115			
Di-n-octyl phthalate	0.0406	0.00600	0.0400	0	102	35	135			
Dibenz[a,h]anthracene	0.0364	0.000800	0.0400	0	90.9	40	125			
Dibenzofuran	0.0294	0.000800	0.0400	0	73.6	55	105			
Diethyl phthalate	0.0348	0.00600	0.0400	0	87.1	40	120			
Dimethyl phthalate	0.0322	0.00600	0.0400	0	80.6	25	125			
Fluoranthene	0.0321	0.000800	0.0400	0	80.4	55	115			
Fluorene	0.0326	0.000800	0.0400	0	81.4	50	110			
Hexachlorobenzene	0.0336	0.000800	0.0400	0	84.0	50	110			
Hexachlorobutadiene	0.0304	0.000800	0.0400	0	76.0	25	105			
Hexachlorocyclopentadiene	0.0270	0.00200	0.0400	0	67.6	25	125			
Hexachloroethane	0.0306	0.000800	0.0400	0	76.5	30	100			
Indeno[1,2,3-cd]pyrene	0.0368	0.000800	0.0400	0	91.9	45	125			
Isophorone	0.0301	0.000800	0.0400	0	75.4	50	110			
N-Nitrosodi-n-propylamine	0.0380	0.000800	0.0400	0	95.0	35	130			
N-Nitrosodimethylamine	0.0253	0.000800	0.0400	0	63.4	25	110			
N-Nitrosodiphenylamine	0.0721	0.000800	0.0800	0	90.2	50	110			
Naphthalene	0.0275	0.000800	0.0400	0	68.9	40	100			
Nitrobenzene	0.0295	0.000800	0.0400	0	73.8	45	110			
Pentachlorobenzene	0.0618	0.000800	0.0800	0	77.3	35	120			
Pentachlorophenol	0.0361	0.000800	0.0400	0	90.3	40	115			
Phenanthrene	0.0286	0.000800	0.0400	0	71.4	50	115			
Phenol	0.0202	0.000800	0.0400	0	50.6	20	115			
Pyrene	0.0315	0.000800	0.0400	0	78.8	50	130			
Pyridine	0.0217	0.00200	0.0400	0	54.3	20	110			
Surr: 2,4,6-Tribromophenol	81.6		80.00		102	42	124			
Surr: 2-Fluorobiphenyl	69.2		80.00		86.5	50	110			
Surr: 2-Fluorophenol	60.8		80.00		76.0	20	110			
Surr: 4-Terphenyl-d14	78.4		80.00		98.0	51	135			
Surr: Nitrobenzene-d5	66.8		80.00		83.5	41	110			
Surr: Phenol-d6	47.6		80.00		59.5	20	115			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS9_120910A

Sample ID: 1209014-01GMSD	Batch ID: 53747	TestNo: SW8270D		Units: mg/L						
SampType: MSD	Run ID: GCMS9_120910A	Analysis Date: 9/10/2012 5:45:00 PM			Prep Date: 9/10/2012					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4,5-Tetrachlorobenzene	0.0585	0.000800	0.0800	0	73.2	35	120	1.34	30	
1,2-Diphenylhydrazine	0.0341	0.000800	0.0400	0	85.2	55	115	3.77	30	
1-Methylnaphthalene	0.0275	0.000800	0.0400	0	68.8	45	125	0.877	30	N
2,4,5-Trichlorophenol	0.0320	0.000800	0.0400	0	80.1	50	110	1.13	30	
2,4,6-Trichlorophenol	0.0317	0.000800	0.0400	0	79.2	50	115	2.04	30	
2,4-Dichlorophenol	0.0313	0.000800	0.0400	0	78.2	50	105	2.13	30	
2,4-Dimethylphenol	0.0323	0.000800	0.0400	0	80.8	30	110	2.63	30	
2,4-Dinitrophenol	0.0353	0.00400	0.0400	0	88.4	15	140	0.340	30	
2,4-Dinitrotoluene	0.0331	0.000800	0.0400	0	82.8	50	120	1.46	30	
2,6-Dichlorophenol	0.0312	0.000800	0.0400	0	78.0	35	120	3.85	30	
2,6-Dinitrotoluene	0.0340	0.000800	0.0400	0	85.0	50	115	1.72	30	
2-Chloronaphthalene	0.0388	0.000800	0.0400	0	97.0	50	105	3.36	30	
2-Chlorophenol	0.0326	0.000800	0.0400	0	81.6	35	105	0.123	30	
2-Methylnaphthalene	0.0301	0.000800	0.0400	0	75.4	45	105	4.62	30	
2-Methylphenol	0.0320	0.000800	0.0400	0	80.0	40	110	0.125	30	
2-Nitroaniline	0.0296	0.000800	0.0400	0	73.9	50	115	2.40	30	
2-Nitrophenol	0.0308	0.000800	0.0400	0	77.1	40	115	0.978	30	
3,3'-Dichlorobenzidine	0.0319	0.00400	0.0400	0	79.9	20	110	3.70	30	
3-Nitroaniline	0.0290	0.000800	0.0400	0	72.5	20	125	0.484	30	
4,6-Dinitro-2-methylphenol	0.0342	0.00200	0.0400	0	85.6	40	130	2.54	30	
4-Bromophenyl phenyl ether	0.0344	0.000800	0.0400	0	86.0	50	115	4.64	30	
4-Chloro-3-methylphenol	0.0338	0.000800	0.0400	0	84.6	45	110	4.54	30	
4-Chloroaniline	0.0238	0.00200	0.0400	0	59.5	15	110	0.590	30	
4-Chlorophenyl phenyl ether	0.0338	0.000800	0.0400	0	84.4	50	110	2.34	30	
4-Methylphenol	0.0315	0.000800	0.0400	0	78.8	30	110	2.76	30	
4-Nitroaniline	0.0273	0.000800	0.0400	0	68.4	35	120	1.99	30	
4-Nitrophenol	0.0160	0.00400	0.0400	0	40.0	20	120	3.92	30	
Acenaphthene	0.0313	0.000800	0.0400	0	78.2	45	110	1.87	30	
Acenaphthylene	0.0327	0.000800	0.0400	0	81.7	50	105	0.245	30	
Acetophenone	0.0633	0.000800	0.0800	0	79.2	45	125	1.34	30	
Aniline	0.0124	0.000800	0.0400	0	30.9	10	140	0	30	
Anthracene	0.0316	0.000800	0.0400	0	79.0	55	110	3.61	30	
Benzidine	0.00374	0.00600	0.0400	0	9.35	20	125	139	30	SR
Benzo[a]anthracene	0.0347	0.000800	0.0400	0	86.7	55	110	4.72	30	
Benzo[a]pyrene	0.0354	0.000800	0.0400	0	88.5	55	110	0.169	30	
Benzo[b]fluoranthene	0.0383	0.000800	0.0400	0	95.8	45	120	8.83	30	
Benzo[g,h,i]perylene	0.0366	0.000800	0.0400	0	91.4	40	125	4.88	30	
Benzo[k]fluoranthene	0.0359	0.000800	0.0400	0	89.7	45	125	0.888	30	
Benzoic acid	0.0104	0.00600	0.0400	0.00670	9.25	5	120	8.00	30	
Benzyl alcohol	0.0262	0.00200	0.0400	0	65.5	30	110	0.685	30	
Biphenyl	0.0304	0.000800	0.0400	0	76.0	45	125	0.925	30	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS9_120910A

Sample ID: 1209014-01GMSD	Batch ID: 53747	TestNo: SW8270D		Units: mg/L						
SampType: MSD	Run ID: GCMS9_120910A	Analysis Date: 9/10/2012 5:45:00 PM			Prep Date: 9/10/2012					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bis(2-chloroethoxy)methane	0.0269	0.000800	0.0400	0	67.4	45	105	3.40	30	
Bis(2-chloroethyl)ether	0.0380	0.000800	0.0400	0	95.0	35	110	9.91	30	
Bis(2-chloroisopropyl)ether	0.0286	0.000800	0.0400	0	71.5	25	130	0.561	30	
Bis(2-ethylhexyl)phthalate	0.0357	0.00300	0.0400	0	89.2	40	125	4.12	30	
Butyl benzyl phthalate	0.0358	0.00600	0.0400	0	89.4	45	115	4.69	30	
Carbazole	0.0310	0.000800	0.0400	0	77.4	50	115	5.23	30	
Chrysene	0.0308	0.000800	0.0400	0	77.0	55	110	2.23	30	
Di-n-butyl phthalate	0.0376	0.00600	0.0400	0	94.0	55	115	3.90	30	
Di-n-octyl phthalate	0.0418	0.00600	0.0400	0	105	35	135	3.01	30	
Dibenz[a,h]anthracene	0.0382	0.000800	0.0400	0	95.5	40	125	4.94	30	
Dibenzofuran	0.0298	0.000800	0.0400	0	74.6	55	105	1.35	30	
Diethyl phthalate	0.0349	0.00600	0.0400	0	87.2	40	120	0.115	30	
Dimethyl phthalate	0.0328	0.00600	0.0400	0	82.0	25	125	1.66	30	
Fluoranthene	0.0334	0.000800	0.0400	0	83.4	55	115	3.79	30	
Fluorene	0.0332	0.000800	0.0400	0	83.0	50	110	2.01	30	
Hexachlorobenzene	0.0348	0.000800	0.0400	0	87.1	50	110	3.68	30	
Hexachlorobutadiene	0.0303	0.000800	0.0400	0	75.8	25	105	0.264	30	
Hexachlorocyclopentadiene	0.0264	0.00200	0.0400	0	66.0	25	125	2.32	30	
Hexachloroethane	0.0311	0.000800	0.0400	0	77.7	30	100	1.56	30	
Indeno[1,2,3-cd]pyrene	0.0381	0.000800	0.0400	0	95.2	45	125	3.53	30	
Isophorone	0.0310	0.000800	0.0400	0	77.4	50	110	2.68	30	
N-Nitrosodi-n-propylamine	0.0384	0.000800	0.0400	0	96.0	35	130	1.10	30	
N-Nitrosodimethylamine	0.0255	0.000800	0.0400	0	63.8	25	110	0.786	30	
N-Nitrosodiphenylamine	0.0746	0.000800	0.0800	0	93.2	50	110	3.33	30	
Naphthalene	0.0281	0.000800	0.0400	0	70.3	40	100	2.08	30	
Nitrobenzene	0.0299	0.000800	0.0400	0	74.9	45	110	1.48	30	
Pentachlorobenzene	0.0647	0.000800	0.0800	0	80.8	35	120	4.52	30	
Pentachlorophenol	0.0371	0.000800	0.0400	0	92.8	40	115	2.79	30	
Phenanthrene	0.0297	0.000800	0.0400	0	74.2	50	115	3.85	30	
Phenol	0.0200	0.000800	0.0400	0	50.0	20	115	1.19	30	
Pyrene	0.0322	0.000800	0.0400	0	80.6	50	130	2.20	30	
Pyridine	0.0212	0.00200	0.0400	0	53.0	20	110	2.52	30	
Surr: 2,4,6-Tribromophenol	83.6		80.00		104	42	124	0	0	
Surr: 2-Fluorobiphenyl	69.6		80.00		87.0	50	110	0	0	
Surr: 2-Fluorophenol	60.2		80.00		75.2	20	110	0	0	
Surr: 4-Terphenyl-d14	81.2		80.00		102	51	135	0	0	
Surr: Nitrobenzene-d5	67.6		80.00		84.5	41	110	0	0	
Surr: Phenol-d6	47.2		80.00		59.0	20	115	0	0	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS9_120910A

Sample ID: MB-53747	Batch ID: 53747	TestNo: SW8270D	Units: mg/L							
SampType: MBLK	Run ID: GCMS9_120910A	Analysis Date: 9/10/2012 7:40:00 PM	Prep Date: 9/10/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000800								N
1,2-Diphenylhydrazine	<0.000200	0.000800								
1-Methylnaphthalene	<0.000200	0.000800								
2,4,5-Trichlorophenol	<0.000200	0.000800								
2,4,6-Trichlorophenol	<0.000200	0.000800								
2,4-Dichlorophenol	<0.000200	0.000800								
2,4-Dimethylphenol	<0.000200	0.000800								
2,4-Dinitrophenol	<0.00100	0.00400								
2,4-Dinitrotoluene	<0.000200	0.000800								
2,6-Dichlorophenol	<0.000200	0.000800								
2,6-Dinitrotoluene	<0.000200	0.000800								
2-Chloronaphthalene	<0.000200	0.000800								
2-Chlorophenol	<0.000200	0.000800								
2-Methylnaphthalene	<0.000200	0.000800								
2-Methylphenol	<0.000200	0.000800								
2-Nitroaniline	<0.000200	0.000800								
2-Nitrophenol	<0.000200	0.000800								
3,3'-Dichlorobenzidine	<0.00100	0.00400								
3-Nitroaniline	<0.000200	0.000800								
4,6-Dinitro-2-methylphenol	<0.000600	0.00200								
4-Bromophenyl phenyl ether	<0.000200	0.000800								
4-Chloro-3-methylphenol	<0.000200	0.000800								
4-Chloroaniline	<0.000600	0.00200								
4-Chlorophenyl phenyl ether	<0.000200	0.000800								
4-Methylphenol	<0.000200	0.000800								
4-Nitroaniline	<0.000200	0.000800								
4-Nitrophenol	<0.00100	0.00400								
Acenaphthene	<0.000200	0.000800								
Acenaphthylene	<0.000200	0.000800								
Acetophenone	<0.000200	0.000800								
Aniline	<0.000200	0.000800								
Anthracene	<0.000200	0.000800								
Benzidine	<0.00200	0.00600								
Benzo[a]anthracene	<0.000200	0.000800								
Benzo[a]pyrene	<0.000200	0.000800								
Benzo[b]fluoranthene	<0.000200	0.000800								
Benzo[g,h,i]perylene	<0.000200	0.000800								
Benzo[k]fluoranthene	<0.000200	0.000800								
Benzoic acid	0.00248	0.00600								
Benzyl alcohol	<0.000600	0.00200								
Biphenyl	<0.000200	0.000800								

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS9_120910A

Sample ID: MB-53747	Batch ID: 53747	TestNo: SW8270D	Units: mg/L							
SampType: MBLK	Run ID: GCMS9_120910A	Analysis Date: 9/10/2012 7:40:00 PM	Prep Date: 9/10/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bis(2-chloroethoxy)methane	<0.000200	0.000800								
Bis(2-chloroethyl)ether	<0.000200	0.000800								
Bis(2-chloroisopropyl)ether	<0.000200	0.000800								
Bis(2-ethylhexyl)phthalate	<0.00100	0.00300								
Butyl benzyl phthalate	<0.00200	0.00600								
Carbazole	<0.000200	0.000800								
Chrysene	<0.000200	0.000800								
Di-n-butyl phthalate	<0.00200	0.00600								
Di-n-octyl phthalate	<0.00200	0.00600								
Dibenz[a,h]anthracene	<0.000200	0.000800								
Dibenzofuran	<0.000200	0.000800								
Diethyl phthalate	<0.00200	0.00600								
Dimethyl phthalate	<0.00200	0.00600								
Fluoranthene	<0.000200	0.000800								
Fluorene	<0.000200	0.000800								
Hexachlorobenzene	<0.000200	0.000800								
Hexachlorobutadiene	<0.000200	0.000800								
Hexachlorocyclopentadiene	<0.000600	0.00200								
Hexachloroethane	<0.000200	0.000800								
Indeno[1,2,3-cd]pyrene	<0.000200	0.000800								
Isophorone	<0.000200	0.000800								
N-Nitrosodi-n-propylamine	<0.000100	0.000800								
N-Nitrosodimethylamine	<0.000200	0.000800								
N-Nitrosodiphenylamine	<0.000200	0.000800								
Naphthalene	<0.000200	0.000800								
Nitrobenzene	<0.000200	0.000800								
Pentachlorobenzene	<0.000200	0.000800								
Pentachlorophenol	<0.000200	0.000800								
Phenanthrene	<0.000200	0.000800								
Phenol	<0.000200	0.000800								
Pyrene	<0.000200	0.000800								
Pyridine	<0.000800	0.00200								
Surr: 2,4,6-Tribromophenol	83.6	80.00		104	42	124				
Surr: 2-Fluorobiphenyl	71.0	80.00		88.8	50	110				
Surr: 2-Fluorophenol	55.0	80.00		68.8	20	110				
Surr: 4-Terphenyl-d14	88.4	80.00		110	51	135				
Surr: Nitrobenzene-d5	70.6	80.00		88.2	41	110				
Surr: Phenol-d6	38.0	80.00		47.5	20	115				

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS9_120910A

Sample ID: ICV-120910	Batch ID: R62487	TestNo: SW8270D	Units: mg/L							
SampType: ICV	Run ID: GCMS9_120910A	Analysis Date: 9/10/2012 2:40:00 PM								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4,5-Tetrachlorobenzene	4.31	0.000800	4.00	0	108	80	120			
1,2-Diphenylhydrazine	3.98	0.000800	4.00	0	99.5	80	120			
1-Methylnaphthalene	8.96	0.000800	8.00	0	112	80	120			N
2,4,5-Trichlorophenol	4.22	0.000800	4.00	0	106	80	120			
2,4,6-Trichlorophenol	4.04	0.000800	4.00	0	101	80	120			
2,4-Dichlorophenol	4.04	0.000800	4.00	0	101	80	120			
2,4-Dimethylphenol	4.10	0.000800	4.00	0	103	80	120			
2,4-Dinitrophenol	3.94	0.00400	4.00	0	98.4	80	120			
2,4-Dinitrotoluene	3.72	0.000800	4.00	0	93.0	80	120			
2,6-Dichlorophenol	4.08	0.000800	4.00	0	102	80	120			
2,6-Dinitrotoluene	3.99	0.000800	4.00	0	99.9	80	120			
2-Chloronaphthalene	3.98	0.000800	4.00	0	99.4	80	120			
2-Chlorophenol	3.83	0.000800	4.00	0	95.6	80	120			
2-Methylnaphthalene	3.98	0.000800	4.00	0	99.5	80	120			
2-Methylphenol	3.84	0.000800	4.00	0	95.9	80	120			
2-Nitroaniline	3.49	0.000800	4.00	0	87.3	80	120			
2-Nitrophenol	4.08	0.000800	4.00	0	102	80	120			
3,3'-Dichlorobenzidine	4.35	0.00400	4.00	0	109	80	120			
3-Nitroaniline	3.58	0.000800	4.00	0	89.4	80	120			
4,6-Dinitro-2-methylphenol	4.04	0.00200	4.00	0	101	80	120			
4-Bromophenyl phenyl ether	4.38	0.000800	4.00	0	110	80	120			
4-Chloro-3-methylphenol	4.50	0.000800	4.00	0	112	80	120			
4-Chloroaniline	4.00	0.00200	4.00	0	100	80	120			
4-Chlorophenyl phenyl ether	4.16	0.000800	4.00	0	104	80	120			
4-Methylphenol	3.90	0.000800	4.00	0	97.6	80	120			
4-Nitroaniline	3.31	0.000800	4.00	0	82.8	80	120			
4-Nitrophenol	3.99	0.00400	4.00	0	99.8	80	120			
Acenaphthene	3.87	0.000800	4.00	0	96.6	80	120			
Acenaphthylene	4.02	0.000800	4.00	0	100	80	120			
Acetophenone	4.11	0.000800	4.00	0	103	80	120			
Aniline	3.66	0.000800	4.00	0	91.6	80	120			
Anthracene	4.02	0.000800	4.00	0	100	80	120			
Benzidine	3.41	0.00600	4.00	0	85.2	80	120			
Benzo[a]anthracene	4.20	0.000800	4.00	0	105	80	120			
Benzo[a]pyrene	4.10	0.000800	4.00	0	102	80	120			
Benzo[b]fluoranthene	4.80	0.000800	4.00	0	120	80	120			
Benzo[g,h,i]perylene	4.61	0.000800	4.00	0	115	80	120			
Benzo[k]fluoranthene	4.25	0.000800	4.00	0	106	80	120			
Benzoic acid	3.68	0.00600	4.00	0	92.1	80	120			
Benzyl alcohol	3.65	0.00200	4.00	0	91.2	80	120			
Biphenyl	4.00	0.000800	4.00	0	100	80	120			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS9_120910A

Sample ID: ICV-120910	Batch ID: R62487	TestNo: SW8270D	Units: mg/L							
SampType: ICV	Run ID: GCMS9_120910A	Analysis Date: 9/10/2012 2:40:00 PM								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bis(2-chloroethoxy)methane	3.42	0.000800	4.00	0	85.6	80	120			
Bis(2-chloroethyl)ether	4.27	0.000800	4.00	0	107	80	120			
Bis(2-chloroisopropyl)ether	3.37	0.000800	4.00	0	84.2	80	120			
Bis(2-ethylhexyl)phthalate	4.05	0.00300	4.00	0	101	80	120			
Butyl benzyl phthalate	4.02	0.00600	4.00	0	100	80	120			
Carbazole	3.86	0.000800	4.00	0	96.4	80	120			
Chrysene	3.67	0.000800	4.00	0	91.8	80	120			
Di-n-butyl phthalate	4.52	0.00600	4.00	0	113	80	120			
Di-n-octyl phthalate	4.23	0.00600	4.00	0	106	80	120			
Dibenz[a,h]anthracene	4.36	0.000800	4.00	0	109	80	120			
Dibenzofuran	3.85	0.000800	4.00	0	96.2	80	120			
Diethyl phthalate	4.24	0.00600	4.00	0	106	80	120			
Dimethyl phthalate	4.09	0.00600	4.00	0	102	80	120			
Fluoranthene	4.16	0.000800	4.00	0	104	80	120			
Fluorene	4.19	0.000800	4.00	0	105	80	120			
Hexachlorobenzene	4.50	0.000800	4.00	0	113	80	120			
Hexachlorobutadiene	4.39	0.000800	4.00	0	110	80	120			
Hexachlorocyclopentadiene	3.65	0.00200	4.00	0	91.2	80	120			
Hexachloroethane	3.99	0.000800	4.00	0	99.9	80	120			
Indeno[1,2,3-cd]pyrene	4.37	0.000800	4.00	0	109	80	120			
Isophorone	3.81	0.000800	4.00	0	95.2	80	120			
N-Nitrosodi-n-propylamine	4.31	0.000800	4.00	0	108	80	120			
N-Nitrosodimethylamine	5.14	0.000800	4.00	0	129	80	120			S
N-Nitrosodiphenylamine	4.07	0.000800	4.00	0	102	80	120			
Naphthalene	3.69	0.000800	4.00	0	92.2	80	120			
Nitrobenzene	3.82	0.000800	4.00	0	95.5	80	120			
Pentachlorobenzene	4.24	0.000800	4.00	0	106	80	120			
Pentachlorophenol	4.19	0.000800	4.00	0	105	80	120			
Phenanthrene	3.77	0.000800	4.00	0	94.3	80	120			
Phenol	3.34	0.000800	4.00	0	83.5	80	120			
Pyrene	3.75	0.000800	4.00	0	93.6	80	120			
Pyridine	4.71	0.00200	4.00	0	118	80	120			
Surr: 2,4,6-Tribromophenol	4560		4000		114	80	120			
Surr: 2-Fluorobiphenyl	3810		4000		95.2	80	120			
Surr: 2-Fluorophenol	3750		4000		93.8	80	120			
Surr: 4-Terphenyl-d14	4160		4000		104	80	120			
Surr: Nitrobenzene-d5	4000		4000		100	80	120			
Surr: Phenol-d6	3780		4000		94.5	80	120			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS9_120910B

The QC data in batch 53747 applies to the following samples: 1209014-01G, 1209014-04G, 1209014-06G

Sample ID: LCS-53747	Batch ID: 53747	TestNo: SW8270D	Units: mg/L							
SampType: LCS	Run ID: GCMS9_120910B	Analysis Date: 9/10/2012 3:50:00 PM	Prep Date: 9/10/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Chloronaphthalene	0.0303	0.000800	0.0400	0	75.8	45	125			N
1-Naphthylamine	0.0280	0.000800	0.0400	0	70.0	45	125			
2-Naphthylamine	0.0278	0.000800	0.0400	0	69.5	45	125			
2-Picoline	0.0257	0.000800	0.0400	0	64.2	45	125			
3-Methylcholanthrene	0.0339	0.000800	0.0400	0	84.8	45	125			
4-Aminobiphenyl	0.0227	0.000800	0.0400	0	56.8	45	125			
7,12-Dimethylbenz(a)anthracene	0.0357	0.000800	0.0400	0	89.4	45	125			
Dibenz(a,j)acridine	0.0354	0.00400	0.0400	0	88.4	45	125			N
Dimethylphenethylamine	0.0170	0.00600	0.0400	0	42.5	45	125			S
Diphenylamine	0.0609	0.000800	0.0800	0	76.1	45	125			
Ethyl methanesulfonate	0.0338	0.000800	0.0400	0	84.5	45	125			
Methyl methanesulfonate	0.0274	0.000800	0.0400	0	68.4	45	125			
N-Nitrosopiperidine	0.0315	0.000800	0.0400	0	78.8	45	125			
p-Dimethylaminoazobenzene	0.0359	0.000800	0.0400	0	89.7	45	125			N
Pentachloronitrobenzene	0.0350	0.000800	0.0400	0	87.6	45	125			
Phenacetin	0.0366	0.000800	0.0400	0	91.6	45	125			
Pronamide	0.0345	0.000800	0.0400	0	86.2	45	125			
Surr: 2,4,6-Tribromophenol	75.2		80.00		94.0	42	124			
Surr: 2-Fluorobiphenyl	72.2		80.00		90.3	50	110			
Surr: 2-Fluorophenol	67.8		80.00		84.8	20	110			
Surr: 4-Terphenyl-d14	79.4		80.00		99.2	51	135			
Surr: Nitrobenzene-d5	72.8		80.00		91.0	41	110			
Surr: Phenol-d6	49.0		80.00		61.3	20	115			

Sample ID: 1209014-01GMS	Batch ID: 53747	TestNo: SW8270D	Units: mg/L							
SampType: MS	Run ID: GCMS9_120910B	Analysis Date: 9/10/2012 4:36:00 PM	Prep Date: 9/10/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Chloronaphthalene	0.0294	0.000800	0.0400	0	73.5	45	125			N
1-Naphthylamine	0.0289	0.000800	0.0400	0	72.2	45	125			
2-Naphthylamine	0.0291	0.000800	0.0400	0	72.9	45	125			
2-Picoline	0.0271	0.000800	0.0400	0	67.8	45	125			
3-Methylcholanthrene	0.0339	0.000800	0.0400	0	84.8	45	125			
4-Aminobiphenyl	0.0256	0.000800	0.0400	0	63.9	45	125			
7,12-Dimethylbenz(a)anthracene	0.0356	0.000800	0.0400	0	89.0	45	125			
Dibenz(a,j)acridine	0.0348	0.00400	0.0400	0	86.9	45	125			N
Dimethylphenethylamine	0.0236	0.00600	0.0400	0	59.0	45	125			
Diphenylamine	0.0606	0.000800	0.0800	0	75.7	45	125			
Ethyl methanesulfonate	0.0345	0.000800	0.0400	0	86.2	45	125			
Methyl methanesulfonate	0.0284	0.000800	0.0400	0	71.0	45	125			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS9_120910B

Sample ID: 1209014-01GMS	Batch ID: 53747	TestNo: SW8270D		Units:	mg/L					
SampType: MS	Run ID: GCMS9_120910B	Analysis Date: 9/10/2012 4:36:00 PM			Prep Date: 9/10/2012					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Nitrosopiperidine	0.0313	0.000800	0.0400	0	78.3	45	125			
p-Dimethylaminoazobenzene	0.0364	0.000800	0.0400	0	91.0	45	125			N
Pentachloronitrobenzene	0.0346	0.000800	0.0400	0	86.6	45	125			
Phenacetin	0.0363	0.000800	0.0400	0	90.9	45	125			
Pronamide	0.0345	0.000800	0.0400	0	86.2	45	125			
Surr: 2,4,6-Tribromophenol	70.6		80.00		88.2	42	124			
Surr: 2-Fluorobiphenyl	72.4		80.00		90.5	50	110			
Surr: 2-Fluorophenol	68.6		80.00		85.8	20	110			
Surr: 4-Terphenyl-d14	79.8		80.00		99.8	51	135			
Surr: Nitrobenzene-d5	72.0		80.00		90.0	41	110			
Surr: Phenol-d6	51.4		80.00		64.2	20	115			

Sample ID: 1209014-01GMSD	Batch ID: 53747	TestNo: SW8270D		Units:	mg/L					
SampType: MSD	Run ID: GCMS9_120910B	Analysis Date: 9/10/2012 4:59:00 PM			Prep Date: 9/10/2012					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Chloronaphthalene	0.0297	0.000800	0.0400	0	74.3	45	125	1.08	30	N
1-Naphthylamine	0.0278	0.000800	0.0400	0	69.4	45	125	4.02	30	
2-Naphthylamine	0.0284	0.000800	0.0400	0	71.0	45	125	2.64	30	
2-Picoline	0.0263	0.000800	0.0400	0	65.7	45	125	3.22	30	
3-Methylcholanthrene	0.0350	0.000800	0.0400	0	87.6	45	125	3.25	30	
4-Aminobiphenyl	0.0219	0.000800	0.0400	0	54.7	45	125	15.5	30	
7,12-Dimethylbenz(a)anthracene	0.0368	0.000800	0.0400	0	92.0	45	125	3.20	30	
Dibenz(a,j)acridine	0.0356	0.00400	0.0400	0	89.0	45	125	2.44	30	N
Dimethylphenethylamine	0.0164	0.00600	0.0400	0	41.0	45	125	36.0	30	SR
Diphenylamine	0.0620	0.000800	0.0800	0	77.4	45	125	2.29	30	
Ethyl methanesulfonate	0.0348	0.000800	0.0400	0	87.1	45	125	1.04	30	
Methyl methanesulfonate	0.0287	0.000800	0.0400	0	71.7	45	125	0.911	30	
N-Nitrosopiperidine	0.0322	0.000800	0.0400	0	80.5	45	125	2.77	30	
p-Dimethylaminoazobenzene	0.0370	0.000800	0.0400	0	92.6	45	125	1.80	30	N
Pentachloronitrobenzene	0.0363	0.000800	0.0400	0	90.8	45	125	4.74	30	
Phenacetin	0.0374	0.000800	0.0400	0	93.4	45	125	2.77	30	
Pronamide	0.0355	0.000800	0.0400	0	88.8	45	125	2.97	30	
Surr: 2,4,6-Tribromophenol	74.4		80.00		93.0	42	124	0	0	
Surr: 2-Fluorobiphenyl	72.4		80.00		90.5	50	110	0	0	
Surr: 2-Fluorophenol	66.8		80.00		83.5	20	110	0	0	
Surr: 4-Terphenyl-d14	81.2		80.00		102	51	135	0	0	
Surr: Nitrobenzene-d5	73.0		80.00		91.2	41	110	0	0	
Surr: Phenol-d6	50.4		80.00		63.0	20	115	0	0	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS9_120910B

Sample ID: MB-53747	Batch ID: 53747	TestNo: SW8270D	Units: mg/L							
SampType: MBLK	Run ID: GCMS9_120910B	Analysis Date: 9/10/2012 7:18:00 PM	Prep Date: 9/10/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Chloronaphthalene	<0.000200	0.000800								N
1-Naphthylamine	<0.000200	0.000800								
2-Naphthylamine	<0.000200	0.000800								
2-Picoline	<0.000200	0.000800								
3-Methylcholanthrene	<0.000200	0.000800								
4-Aminobiphenyl	<0.000200	0.000800								
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000800								
Dibenz(a,j)acridine	<0.00100	0.00400								N
Dimethylphenethylamine	<0.00200	0.00600								
Diphenylamine	<0.000200	0.000800								
Ethyl methanesulfonate	<0.000200	0.000800								
Methyl methanesulfonate	<0.000200	0.000800								
N-Nitrosopiperidine	<0.000200	0.000800								
p-Dimethylaminoazobenzene	<0.000200	0.000800								N
Pentachloronitrobenzene	<0.000200	0.000800								
Phenacetin	<0.000200	0.000800								
Pronamide	<0.000200	0.000800								
Surr: 2,4,6-Tribromophenol	76.0	80.00		95.0	42	124				
Surr: 2-Fluorobiphenyl	74.6	80.00		93.3	50	110				
Surr: 2-Fluorophenol	60.6	80.00		75.8	20	110				
Surr: 4-Terphenyl-d14	86.6	80.00		108	51	135				
Surr: Nitrobenzene-d5	75.8	80.00		94.8	41	110				
Surr: Phenol-d6	39.8	80.00		49.8	20	115				

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS9_120910B

Sample ID: ICV-120910 APP9	Batch ID: R62488	TestNo:	SW8270D	Units:	mg/L					
SampType: ICV	Run ID: GCMS9_120910B	Analysis Date: 9/10/2012 2:18:00 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Chloronaphthalene	3.62	0.000800	4.00	0	90.5	80	120			N
1-Naphthylamine	3.75	0.000800	4.00	0	93.7	80	120			
2-Naphthylamine	3.92	0.000800	4.00	0	98.0	80	120			
2-Picoline	4.03	0.000800	4.00	0	101	80	120			
3-Methylcholanthrene	3.27	0.000800	4.00	0	81.7	80	120			
4-Aminobiphenyl	3.78	0.000800	4.00	0	94.5	80	120			
7,12-Dimethylbenz(a)anthracene	3.56	0.000800	4.00	0	88.9	80	120			
Dibenz(a,j)acridine	3.26	0.00400	4.00	0	81.6	80	120			N
Dimethylphenethylamine	3.85	0.00600	4.00	0	96.2	80	120			
Diphenylamine	3.70	0.000800	4.00	0	92.6	80	120			
Ethyl methanesulfonate	4.01	0.000800	4.00	0	100	80	120			
Methyl methanesulfonate	4.44	0.000800	4.00	0	111	80	120			
N-Nitrosopiperidine	3.94	0.000800	4.00	0	98.6	80	120			
p-Dimethylaminoazobenzene	3.30	0.000800	4.00	0	82.6	80	120			N
Pentachloronitrobenzene	3.56	0.000800	4.00	0	88.9	80	120			
Phenacetin	3.61	0.000800	4.00	0	90.2	80	120			
Pronamide	3.57	0.000800	4.00	0	89.2	80	120			
Surr: 2,4,6-Tribromophenol	3580		4000		89.5	80	120			
Surr: 2-Fluorobiphenyl	3690		4000		92.2	80	120			
Surr: 2-Fluorophenol	4120		4000		103	80	120			
Surr: 4-Terphenyl-d14	3230		4000		80.8	80	120			
Surr: Nitrobenzene-d5	4080		4000		102	80	120			
Surr: Phenol-d6	4110		4000		103	80	120			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_120910A

The QC data in batch 53759 applies to the following samples: 1209014-01A, 1209014-02A, 1209014-03A, 1209014-04A, 1209014-05A, 1209014-06A

Sample ID: LCS-53759	Batch ID: 53759	TestNo: SW8260C	Units: mg/L							
SampType: LCS	Run ID: GCMS5_120910A	Analysis Date: 9/10/2012 10:35:00 AM	Prep Date: 9/10/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	0.0225	0.00100	0.0232	0	96.8	80	130			
1,1,1-Trichloroethane	0.0233	0.00100	0.0232	0	100	65	130			
1,1,2,2-Tetrachloroethane	0.0232	0.00100	0.0232	0	100	65	130			
1,1,2-Trichloroethane	0.0236	0.00100	0.0232	0	102	75	125			
1,1-Dichloroethane	0.0231	0.00100	0.0232	0	99.4	70	135			
1,1-Dichloroethene	0.0237	0.00100	0.0232	0	102	70	130			
1,1-Dichloropropene	0.0244	0.00100	0.0232	0	105	75	130			
1,2,3-Trichlorobenzene	0.0227	0.00500	0.0232	0	97.9	55	140			
1,2,3-Trichloropropane	0.0222	0.00100	0.0232	0	95.7	75	125			
1,2,4-Trichlorobenzene	0.0225	0.00500	0.0232	0	97.0	65	135			
1,2,4-Trimethylbenzene	0.0239	0.00500	0.0232	0	103	75	130			
1,2-Dibromo-3-chloropropane	0.0224	0.0100	0.0232	0	96.6	50	130			
1,2-Dibromoethane	0.0232	0.00100	0.0232	0	100	80	120			
1,2-Dichlorobenzene	0.0235	0.00100	0.0232	0	101	70	120			
1,2-Dichloroethane	0.0226	0.00100	0.0232	0	97.5	70	130			
1,2-Dichloropropane	0.0238	0.00100	0.0232	0	103	75	125			
1,3,5-Trimethylbenzene	0.0232	0.00500	0.0232	0	99.8	75	130			
1,3-Dichlorobenzene	0.0235	0.00100	0.0232	0	101	75	125			
1,3-Dichloropropane	0.0224	0.00100	0.0232	0	96.6	75	125			
1,4-Dichloro-2-butene	0.0297	0.00200	0.0232	0	128	50	150			
1,4-Dichlorobenzene	0.0221	0.00100	0.0232	0	95.4	75	125			
2,2-Dichloropropane	0.0273	0.00100	0.0232	0	118	70	135			
2-Butanone	0.0250	0.0150	0.0232	0	108	30	150			
2-Chloroethylvinylether	0.0244	0.0150	0.0232	0	105	50	150			
2-Chlorotoluene	0.0227	0.00100	0.0232	0	97.8	75	125			
2-Hexanone	0.0233	0.0150	0.0232	0	101	55	130			
4-Chlorotoluene	0.0231	0.00100	0.0232	0	99.6	75	130			
4-Methyl-2-pentanone	0.0231	0.0150	0.0232	0	99.6	60	135			
Acetone	0.0258	0.0150	0.0232	0	111	40	140			
Acrylonitrile	0.0457	0.00300	0.0464	0	98.5	50	150			
Benzene	0.0234	0.00100	0.0232	0	101	80	120			
Bromobenzene	0.0226	0.00100	0.0232	0	97.3	75	125			
Bromochloromethane	0.0238	0.00100	0.0232	0	103	65	130			
Bromodichloromethane	0.0232	0.00100	0.0232	0	100	75	120			
Bromoform	0.0241	0.00100	0.0232	0	104	70	130			
Bromomethane	0.0202	0.00100	0.0232	0	87.2	30	145			
Carbon disulfide	0.0192	0.0150	0.0232	0	83.0	35	160			
Carbon tetrachloride	0.0233	0.00100	0.0232	0	100	65	140			
Chlorobenzene	0.0222	0.00100	0.0232	0	95.7	80	120			
Chloroethane	0.0171	0.00100	0.0232	0	73.7	60	135			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_120910A

Sample ID: LCS-53759	Batch ID: 53759	TestNo: SW8260C	Units: mg/L							
SampType: LCS	Run ID: GCMS5_120910A	Analysis Date: 9/10/2012 10:35:00 AM Prep Date: 9/10/2012								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloroform	0.0227	0.00100	0.0232	0	98.0	65	135			
Chloromethane	0.0206	0.00100	0.0232	0	88.8	40	125			
cis-1,2-Dichloroethene	0.0238	0.00100	0.0232	0	103	70	125			
cis-1,3-Dichloropropene	0.0248	0.00100	0.0232	0	107	70	130			
Dibromochloromethane	0.0227	0.00100	0.0232	0	97.9	60	135			
Dibromomethane	0.0234	0.00100	0.0232	0	101	75	125			
Dichlorodifluoromethane	0.0218	0.00100	0.0232	0	94.1	30	155			
Ethylbenzene	0.0228	0.00100	0.0232	0	98.4	75	125			
Iodomethane	0.0205	0.0150	0.0232	0	88.3	50	150			
Isopropylbenzene	0.0222	0.00100	0.0232	0	95.8	75	125			
m,p-Xylene	0.0467	0.00200	0.0464	0	101	75	130			
Methyl tert-butyl ether	0.0258	0.00100	0.0232	0	111	65	125			
Methylene chloride	0.0239	0.00250	0.0232	0	103	55	140			
n-Butylbenzene	0.0242	0.00100	0.0232	0	104	70	135			
n-Propylbenzene	0.0223	0.00100	0.0232	0	96.1	70	130			
o-Xylene	0.0223	0.00100	0.0232	0	96.0	80	120			
p-Isopropyltoluene	0.0246	0.00100	0.0232	0	106	75	130			
sec-Butylbenzene	0.0236	0.00100	0.0232	0	102	70	125			
Styrene	0.0241	0.00100	0.0232	0	104	65	135			
tert-Butylbenzene	0.0240	0.00100	0.0232	0	103	70	130			
Tetrachloroethene	0.0233	0.00200	0.0232	0	100	45	150			
Toluene	0.0233	0.00200	0.0232	0	101	75	120			
trans-1,2-Dichloroethene	0.0239	0.00100	0.0232	0	103	60	140			
trans-1,3-Dichloropropene	0.0248	0.00100	0.0232	0	107	55	140			
Trichloroethene	0.0225	0.00200	0.0232	0	96.8	70	125			
Trichlorofluoromethane	0.0218	0.00100	0.0232	0	94.1	60	145			
Vinyl chloride	0.0220	0.00100	0.0232	0	94.9	50	145			
Surr: 1,2-Dichloroethane-d4	181		200.0		90.7	70	120			
Surr: 4-Bromofluorobenzene	185		200.0		92.7	75	120			
Surr: Dibromofluoromethane	187		200.0		93.4	85	115			
Surr: Toluene-d8	182		200.0		91.1	85	120			

Sample ID: MB-53759	Batch ID: 53759	TestNo: SW8260C	Units: mg/L							
SampType: MBLK	Run ID: GCMS5_120910A	Analysis Date: 9/10/2012 11:01:00 AM Prep Date: 9/10/2012								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	<0.000200	0.00100								
1,1,1-Trichloroethane	<0.000200	0.00100								
1,1,2,2-Tetrachloroethane	<0.000200	0.00100								
1,1,2-Trichloroethane	<0.000200	0.00100								
1,1-Dichloroethane	<0.000200	0.00100								

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_120910A

Sample ID: MB-53759	Batch ID: 53759	TestNo: SW8260C	Units: mg/L							
SampType: MBLK	Run ID: GCMS5_120910A	Analysis Date: 9/10/2012 11:01:00 AM Prep Date: 9/10/2012								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	<0.000200	0.00100								
1,1-Dichloropropene	<0.000200	0.00100								
1,2,3-Trichlorobenzene	<0.00150	0.00500								
1,2,3-Trichloropropane	<0.000300	0.00100								
1,2,4-Trichlorobenzene	<0.00150	0.00500								
1,2,4-Trimethylbenzene	<0.00150	0.00500								
1,2-Dibromo-3-chloropropane	<0.00300	0.0100								
1,2-Dibromoethane	<0.000200	0.00100								
1,2-Dichlorobenzene	<0.000300	0.00100								
1,2-Dichloroethane	<0.000300	0.00100								
1,2-Dichloropropane	<0.000200	0.00100								
1,3,5-Trimethylbenzene	<0.00150	0.00500								
1,3-Dichlorobenzene	<0.000300	0.00100								
1,3-Dichloropropane	<0.000200	0.00100								
1,4-Dichloro-2-butene	<0.00200	0.00200								
1,4-Dichlorobenzene	<0.000300	0.00100								
2,2-Dichloropropane	<0.000200	0.00100								
2-Butanone	<0.00500	0.0150								
2-Chloroethylvinylether	<0.00500	0.0150								
2-Chlorotoluene	<0.000300	0.00100								
2-Hexanone	<0.00500	0.0150								
4-Chlorotoluene	<0.000300	0.00100								
4-Methyl-2-pentanone	<0.00500	0.0150								
Acetone	<0.00500	0.0150								
Acrylonitrile	<0.00100	0.00300								
Benzene	<0.000200	0.00100								
Bromobenzene	<0.000200	0.00100								
Bromochloromethane	<0.000200	0.00100								
Bromodichloromethane	<0.000200	0.00100								
Bromoform	<0.000200	0.00100								
Bromomethane	<0.000300	0.00100								
Carbon disulfide	<0.00500	0.0150								
Carbon tetrachloride	<0.000200	0.00100								
Chlorobenzene	<0.000200	0.00100								
Chloroethane	<0.000300	0.00100								
Chloroform	<0.000300	0.00100								
Chloromethane	<0.000300	0.00100								
cis-1,2-Dichloroethene	<0.000200	0.00100								
cis-1,3-Dichloropropene	<0.000200	0.00100								
Dibromochloromethane	<0.000200	0.00100								
Dibromomethane	<0.000200	0.00100								

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_120910A

Sample ID: MB-53759	Batch ID: 53759	TestNo: SW8260C	Units: mg/L	
SampType: MBLK	Run ID: GCMS5_120910A	Analysis Date: 9/10/2012 11:01:00 AM Prep Date: 9/10/2012		
Analyte	Result	RL	SPK value	Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Dichlorodifluoromethane	<0.000200	0.00100		
Ethylbenzene	<0.000300	0.00100		
Iodomethane	<0.00500	0.0150		
Isopropylbenzene	<0.000200	0.00100		
m,p-Xylene	<0.000600	0.00200		
Methyl tert-butyl ether	<0.000300	0.00100		
Methylene chloride	<0.00250	0.00250		
n-Butylbenzene	<0.000300	0.00100		
n-Propylbenzene	<0.000300	0.00100		
o-Xylene	<0.000300	0.00100		
p-Isopropyltoluene	<0.000300	0.00100		
sec-Butylbenzene	<0.000300	0.00100		
Styrene	<0.000200	0.00100		
tert-Butylbenzene	<0.000300	0.00100		
Tetrachloroethene	<0.000600	0.00200		
Toluene	<0.000600	0.00200		
trans-1,2-Dichloroethene	<0.000200	0.00100		
trans-1,3-Dichloropropene	<0.000200	0.00100		
Trichloroethene	<0.000600	0.00200		
Trichlorofluoromethane	<0.000200	0.00100		
Vinyl chloride	<0.000100	0.00100		
Surr: 1,2-Dichloroethane-d4	179	200.0	89.6	70 120
Surr: 4-Bromofluorobenzene	187	200.0	93.7	75 120
Surr: Dibromofluoromethane	185	200.0	92.4	85 115
Surr: Toluene-d8	183	200.0	91.5	85 120

Sample ID: 1209014-01AMS	Batch ID: 53759	TestNo: SW8260C	Units: mg/L
SampType: MS	Run ID: GCMS5_120910A	Analysis Date: 9/10/2012 1:56:00 PM Prep Date: 9/10/2012	
Analyte	Result	RL	SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
1,1,1,2-Tetrachloroethane	0.0211	0.00100	0.0232 0 90.9 80 130
1,1,1-Trichloroethane	0.0223	0.00100	0.0232 0 96.0 65 130
1,1,2,2-Tetrachloroethane	0.0226	0.00100	0.0232 0 97.5 65 130
1,1,2-Trichloroethane	0.0231	0.00100	0.0232 0 99.5 75 125
1,1-Dichloroethane	0.0222	0.00100	0.0232 0 95.6 70 135
1,1-Dichloroethene	0.0222	0.00100	0.0232 0 95.6 70 130
1,1-Dichloropropene	0.0228	0.00100	0.0232 0 98.1 75 130
1,2,3-Trichlorobenzene	0.0206	0.00500	0.0232 0 88.6 55 140
1,2,3-Trichloropropane	0.0217	0.00100	0.0232 0 93.6 75 125
1,2,4-Trichlorobenzene	0.0203	0.00500	0.0232 0 87.4 65 135
1,2,4-Trimethylbenzene	0.0219	0.00500	0.0232 0 94.5 75 130

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_120910A

Sample ID: 1209014-01AMS	Batch ID: 53759	TestNo: SW8260C		Units:	mg/L					
SampType: MS	Run ID: GCMS5_120910A	Analysis Date: 9/10/2012 1:56:00 PM			Prep Date: 9/10/2012					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	0.0222	0.0100	0.0232	0	95.9	50	130			
1,2-Dibromoethane	0.0222	0.00100	0.0232	0	95.7	80	120			
1,2-Dichlorobenzene	0.0216	0.00100	0.0232	0	93.3	70	120			
1,2-Dichloroethane	0.0221	0.00100	0.0232	0	95.1	70	130			
1,2-Dichloropropane	0.0223	0.00100	0.0232	0	96.0	75	125			
1,3,5-Trimethylbenzene	0.0213	0.00500	0.0232	0	91.8	75	130			
1,3-Dichlorobenzene	0.0212	0.00100	0.0232	0	91.4	75	125			
1,3-Dichloropropane	0.0220	0.00100	0.0232	0	94.6	75	125			
1,4-Dichloro-2-butene	0.0286	0.00200	0.0232	0	123	50	150			
1,4-Dichlorobenzene	0.0208	0.00100	0.0232	0	89.7	75	125			
2,2-Dichloropropane	0.0239	0.00100	0.0232	0	103	70	135			
2-Butanone	0.0230	0.0150	0.0232	0	99.0	30	150			
2-Chloroethylvinylether	<0.00500	0.0150	0.0232	0	0	50	150			S
2-Chlorotoluene	0.0210	0.00100	0.0232	0	90.3	75	125			
2-Hexanone	0.0237	0.0150	0.0232	0	102	55	130			
4-Chlorotoluene	0.0213	0.00100	0.0232	0	91.8	75	130			
4-Methyl-2-pentanone	0.0242	0.0150	0.0232	0	104	60	135			
Acetone	0.0384	0.0150	0.0232	0.0128	110	40	140			
Acrylonitrile	0.0443	0.00300	0.0464	0	95.4	50	150			
Benzene	0.0226	0.00100	0.0232	0	97.5	80	120			
Bromobenzene	0.0208	0.00100	0.0232	0	89.7	75	125			
Bromochloromethane	0.0232	0.00100	0.0232	0	100	65	130			
Bromodichloromethane	0.0225	0.00100	0.0232	0	97.0	75	120			
Bromoform	0.0227	0.00100	0.0232	0	97.8	70	130			
Bromomethane	0.0178	0.00100	0.0232	0	76.5	30	145			
Carbon disulfide	0.0180	0.0150	0.0232	0	77.6	35	160			
Carbon tetrachloride	0.0223	0.00100	0.0232	0	96.1	65	140			
Chlorobenzene	0.0209	0.00100	0.0232	0	90.0	80	120			
Chloroethane	0.0220	0.00100	0.0232	0	95.0	60	135			
Chloroform	0.0222	0.00100	0.0232	0	95.9	65	135			
Chloromethane	0.0201	0.00100	0.0232	0	86.5	40	125			
cis-1,2-Dichloroethene	0.0223	0.00100	0.0232	0	96.0	70	125			
cis-1,3-Dichloropropene	0.0217	0.00100	0.0232	0	93.5	70	130			
Dibromochloromethane	0.0216	0.00100	0.0232	0	93.2	60	135			
Dibromomethane	0.0225	0.00100	0.0232	0	96.9	75	125			
Dichlorodifluoromethane	0.0204	0.00100	0.0232	0	88.1	30	155			
Ethylbenzene	0.0215	0.00100	0.0232	0	92.8	75	125			
Iodomethane	0.0165	0.0150	0.0232	0	71.3	50	150			
Isopropylbenzene	0.0210	0.00100	0.0232	0	90.5	75	125			
m,p-Xylene	0.0442	0.00200	0.0464	0	95.3	75	130			
Methyl tert-butyl ether	0.0232	0.00100	0.0232	0	99.9	65	125			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_120910A

Sample ID: 1209014-01AMS	Batch ID: 53759	TestNo: SW8260C		Units:	mg/L					
SampType: MS	Run ID: GCMS5_120910A	Analysis Date: 9/10/2012 1:56:00 PM			Prep Date:	9/10/2012				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methylene chloride	0.0225	0.00250	0.0232	0	96.9	55	140			
n-Butylbenzene	0.0224	0.00100	0.0232	0	96.5	70	135			
n-Propylbenzene	0.0211	0.00100	0.0232	0	90.9	70	130			
o-Xylene	0.0207	0.00100	0.0232	0	89.4	80	120			
p-Isopropyltoluene	0.0219	0.00100	0.0232	0	94.6	75	130			
sec-Butylbenzene	0.0215	0.00100	0.0232	0	92.5	70	125			
Styrene	0.0223	0.00100	0.0232	0	96.0	65	135			
tert-Butylbenzene	0.0218	0.00100	0.0232	0	94.1	70	130			
Tetrachloroethene	0.0216	0.00200	0.0232	0	93.1	45	150			
Toluene	0.0222	0.00200	0.0232	0	95.7	75	120			
trans-1,2-Dichloroethene	0.0221	0.00100	0.0232	0	95.2	60	140			
trans-1,3-Dichloropropene	0.0229	0.00100	0.0232	0	98.5	55	140			
Trichloroethene	0.0210	0.00200	0.0232	0	90.4	70	125			
Trichlorofluoromethane	0.0209	0.00100	0.0232	0	90.0	60	145			
Vinyl chloride	0.0201	0.00100	0.0232	0	86.5	50	145			
Surr: 1,2-Dichloroethane-d4	186		200.0		93.1	70	120			
Surr: 4-Bromofluorobenzene	183		200.0		91.3	75	120			
Surr: Dibromofluoromethane	189		200.0		94.6	85	115			
Surr: Toluene-d8	181		200.0		90.5	85	120			

Sample ID: 1209014-01AMSD	Batch ID: 53759	TestNo: SW8260C		Units:	mg/L					
SampType: MSD	Run ID: GCMS5_120910A	Analysis Date: 9/10/2012 2:21:00 PM			Prep Date:	9/10/2012				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	0.0206	0.00100	0.0232	0	88.8	80	130	2.40	30	
1,1,1-Trichloroethane	0.0215	0.00100	0.0232	0	92.7	65	130	3.47	30	
1,1,2,2-Tetrachloroethane	0.0218	0.00100	0.0232	0	94.1	65	130	3.56	30	
1,1,2-Trichloroethane	0.0225	0.00100	0.0232	0	97.0	75	125	2.54	30	
1,1-Dichloroethane	0.0217	0.00100	0.0232	0	93.6	70	135	2.10	30	
1,1-Dichloroethene	0.0220	0.00100	0.0232	0	94.9	70	130	0.769	30	
1,1-Dichloropropene	0.0226	0.00100	0.0232	0	97.5	75	130	0.705	30	
1,2,3-Trichlorobenzene	0.0207	0.00500	0.0232	0	89.1	55	140	0.631	30	
1,2,3-Trichloropropane	0.0211	0.00100	0.0232	0	90.9	75	125	2.90	30	
1,2,4-Trichlorobenzene	0.0203	0.00500	0.0232	0	87.4	65	135	0	30	
1,2,4-Trimethylbenzene	0.0220	0.00500	0.0232	0	94.9	75	130	0.410	30	
1,2-Dibromo-3-chloropropane	0.0209	0.0100	0.0232	0	90.0	50	130	6.36	30	
1,2-Dibromoethane	0.0217	0.00100	0.0232	0	93.4	80	120	2.37	30	
1,2-Dichlorobenzene	0.0214	0.00100	0.0232	0	92.3	70	120	1.07	30	
1,2-Dichloroethane	0.0217	0.00100	0.0232	0	93.5	70	130	1.65	30	
1,2-Dichloropropane	0.0218	0.00100	0.0232	0	94.0	75	125	2.13	30	
1,3,5-Trimethylbenzene	0.0212	0.00500	0.0232	0	91.5	75	130	0.376	30	

Qualifiers:	B	Analyte detected in the associated Method Blank	DF	Dilution Factor
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
	RL	Reporting Limit	S	Spike Recovery outside control limits
	J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_120910A

Sample ID: 1209014-01AMSD	Batch ID: 53759	TestNo: SW8260C		Units: mg/L						
SampType: MSD	Run ID: GCMS5_120910A	Analysis Date: 9/10/2012 2:21:00 PM			Prep Date: 9/10/2012					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	0.0211	0.00100	0.0232	0	91.1	75	125	0.378	30	
1,3-Dichloropropane	0.0214	0.00100	0.0232	0	92.1	75	125	2.72	30	
1,4-Dichloro-2-butene	0.0277	0.00200	0.0232	0	119	50	150	3.27	30	
1,4-Dichlorobenzene	0.0207	0.00100	0.0232	0	89.0	75	125	0.772	30	
2,2-Dichloropropane	0.0230	0.00100	0.0232	0	99.3	70	135	3.62	30	
2-Butanone	0.0219	0.0150	0.0232	0	94.2	30	150	4.95	30	
2-Chloroethylvinylether	<0.00500	0.0150	0.0232	0	0	50	150	0	30	S
2-Chlorotoluene	0.0209	0.00100	0.0232	0	90.0	75	125	0.335	30	
2-Hexanone	0.0222	0.0150	0.0232	0	95.6	55	130	6.41	30	
4-Chlorotoluene	0.0214	0.00100	0.0232	0	92.2	75	130	0.422	30	
4-Methyl-2-pentanone	0.0230	0.0150	0.0232	0	99.3	60	135	4.95	30	
Acetone	0.0412	0.0150	0.0232	0.0128	122	40	140	7.07	30	
Acrylonitrile	0.0426	0.00300	0.0464	0	91.7	50	150	3.98	30	
Benzene	0.0222	0.00100	0.0232	0	95.6	80	120	2.01	30	
Bromobenzene	0.0208	0.00100	0.0232	0	89.7	75	125	0.048	30	
Bromochloromethane	0.0226	0.00100	0.0232	0	97.2	65	130	3.01	30	
Bromodichloromethane	0.0219	0.00100	0.0232	0	94.6	75	120	2.52	30	
Bromoform	0.0220	0.00100	0.0232	0	95.0	70	130	2.86	30	
Bromomethane	0.0178	0.00100	0.0232	0	76.8	30	145	0.337	30	
Carbon disulfide	0.0179	0.0150	0.0232	0	77.0	35	160	0.836	30	
Carbon tetrachloride	0.0217	0.00100	0.0232	0	93.5	65	140	2.73	30	
Chlorobenzene	0.0206	0.00100	0.0232	0	88.8	80	120	1.30	30	
Chloroethane	0.0220	0.00100	0.0232	0	94.8	60	135	0.136	30	
Chloroform	0.0215	0.00100	0.0232	0	92.8	65	135	3.29	30	
Chloromethane	0.0195	0.00100	0.0232	0	84.2	40	125	2.68	30	
cis-1,2-Dichloroethene	0.0220	0.00100	0.0232	0	95.0	70	125	0.993	30	
cis-1,3-Dichloropropene	0.0215	0.00100	0.0232	0	92.5	70	130	1.07	30	
Dibromochloromethane	0.0212	0.00100	0.0232	0	91.5	60	135	1.87	30	
Dibromomethane	0.0222	0.00100	0.0232	0	95.8	75	125	1.07	30	
Dichlorodifluoromethane	0.0201	0.00100	0.0232	0	86.6	30	155	1.73	30	
Ethylbenzene	0.0214	0.00100	0.0232	0	92.0	75	125	0.886	30	
Iodomethane	0.0174	0.0150	0.0232	0	74.8	50	150	4.78	30	
Isopropylbenzene	0.0206	0.00100	0.0232	0	88.8	75	125	1.97	30	
m,p-Xylene	0.0433	0.00200	0.0464	0	93.4	75	130	2.08	30	
Methyl tert-butyl ether	0.0227	0.00100	0.0232	0	97.7	65	125	2.27	30	
Methylene chloride	0.0220	0.00250	0.0232	0	94.8	55	140	2.20	30	
n-Butylbenzene	0.0222	0.00100	0.0232	0	95.6	70	135	0.898	30	
n-Propylbenzene	0.0205	0.00100	0.0232	0	88.4	70	130	2.84	30	
o-Xylene	0.0204	0.00100	0.0232	0	87.9	80	120	1.70	30	
p-Isopropyltoluene	0.0219	0.00100	0.0232	0	94.5	75	130	0.045	30	
sec-Butylbenzene	0.0210	0.00100	0.0232	0	90.6	70	125	2.12	30	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_120910A

Sample ID: 1209014-01AMSD	Batch ID: 53759	TestNo:	SW8260C	Units:	mg/L					
SampType: MSD	Run ID: GCMS5_120910A	Analysis Date: 9/10/2012 2:21:00 PM		Prep Date:	9/10/2012					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Styrene	0.0210	0.00100	0.0232	0	90.6	65	135	5.78	30	
tert-Butylbenzene	0.0217	0.00100	0.0232	0	93.5	70	130	0.597	30	
Tetrachloroethene	0.0212	0.00200	0.0232	0	91.5	45	150	1.82	30	
Toluene	0.0217	0.00200	0.0232	0	93.5	75	120	2.28	30	
trans-1,2-Dichloroethene	0.0222	0.00100	0.0232	0	95.7	60	140	0.542	30	
trans-1,3-Dichloropropene	0.0225	0.00100	0.0232	0	97.0	55	140	1.59	30	
Trichloroethene	0.0209	0.00200	0.0232	0	89.9	70	125	0.526	30	
Trichlorofluoromethane	0.0206	0.00100	0.0232	0	88.8	60	145	1.30	30	
Vinyl chloride	0.0202	0.00100	0.0232	0	87.0	50	145	0.547	30	
Surr: 1,2-Dichloroethane-d4	182		200.0		91.2	70	120	0	0	
Surr: 4-Bromofluorobenzene	183		200.0		91.7	75	120	0	0	
Surr: Dibromofluoromethane	186		200.0		93.2	85	115	0	0	
Surr: Toluene-d8	179		200.0		89.3	85	120	0	0	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_120910A

Sample ID: ICV-120910	Batch ID: R62468	TestNo: SW8260C	Units: mg/L							
SampType: ICV	Run ID: GCMS5_120910A	Analysis Date: 9/10/2012 10:07:00 AM Prep Date:								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	0.0472	0.00100	0.0464	0	102	80	120			
1,1,1-Trichloroethane	0.0488	0.00100	0.0464	0	105	80	120			
1,1,2,2-Tetrachloroethane	0.0463	0.00100	0.0464	0	99.7	80	120			
1,1,2-Trichloroethane	0.0482	0.00100	0.0464	0	104	80	120			
1,1-Dichloroethane	0.0487	0.00100	0.0464	0	105	80	120			
1,1-Dichloroethene	0.0486	0.00100	0.0464	0	105	80	120			
1,1-Dichloropropene	0.0513	0.00100	0.0464	0	111	80	120			
1,2,3-Trichlorobenzene	0.0438	0.00500	0.0464	0	94.4	80	120			
1,2,3-Trichloropropane	0.0451	0.00100	0.0464	0	97.2	80	120			
1,2,4-Trichlorobenzene	0.0458	0.00500	0.0464	0	98.6	80	120			
1,2,4-Trimethylbenzene	0.0491	0.00500	0.0464	0	106	80	120			
1,2-Dibromo-3-chloropropane	0.0454	0.0100	0.0464	0	97.8	80	120			
1,2-Dibromoethane	0.0478	0.00100	0.0464	0	103	80	120			
1,2-Dichlorobenzene	0.0484	0.00100	0.0464	0	104	80	120			
1,2-Dichloroethane	0.0467	0.00100	0.0464	0	101	80	120			
1,2-Dichloropropane	0.0498	0.00100	0.0464	0	107	80	120			
1,3,5-Trimethylbenzene	0.0475	0.00500	0.0464	0	102	80	120			
1,3-Dichlorobenzene	0.0474	0.00100	0.0464	0	102	80	120			
1,3-Dichloropropane	0.0463	0.00100	0.0464	0	99.9	80	120			
1,4-Dichloro-2-butene	0.0609	0.00200	0.0464	0	131	80	120			S
1,4-Dichlorobenzene	0.0452	0.00100	0.0464	0	97.3	80	120			
2,2-Dichloropropane	0.0589	0.00100	0.0464	0	127	80	120			S
2-Butanone	0.0448	0.0150	0.0464	0	96.5	80	120			
2-Chloroethylvinylether	0.0471	0.0150	0.0464	0	101	80	120			
2-Chlorotoluene	0.0465	0.00100	0.0464	0	100	80	120			
2-Hexanone	0.0427	0.0150	0.0464	0	92.0	80	120			
4-Chlorotoluene	0.0481	0.00100	0.0464	0	104	80	120			
4-Methyl-2-pentanone	0.0436	0.0150	0.0464	0	94.0	80	120			
Acetone	0.0472	0.0150	0.0464	0	102	80	120			
Acrylonitrile	0.0918	0.00300	0.0928	0	99.0	60	140			
Benzene	0.0491	0.00100	0.0464	0	106	80	120			
Bromobenzene	0.0472	0.00100	0.0464	0	102	80	120			
Bromochloromethane	0.0496	0.00100	0.0464	0	107	80	120			
Bromodichloromethane	0.0491	0.00100	0.0464	0	106	80	120			
Bromoform	0.0501	0.00100	0.0464	0	108	80	120			
Bromomethane	0.0419	0.00100	0.0464	0	90.3	80	120			
Carbon disulfide	0.0398	0.0150	0.0464	0	85.7	80	120			
Carbon tetrachloride	0.0498	0.00100	0.0464	0	107	80	120			
Chlorobenzene	0.0453	0.00100	0.0464	0	97.6	80	120			
Chloroethane	0.0468	0.00100	0.0464	0	101	80	120			
Chloroform	0.0481	0.00100	0.0464	0	104	80	120			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_120910A

Sample ID: ICV-120910	Batch ID: R62468	TestNo: SW8260C	Units: mg/L							
SampType: ICV	Run ID: GCMS5_120910A	Analysis Date: 9/10/2012 10:07:00 AM Prep Date:								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloromethane	0.0432	0.00100	0.0464	0	93.1	80	120			
cis-1,2-Dichloroethene	0.0509	0.00100	0.0464	0	110	80	120			
cis-1,3-Dichloropropene	0.0521	0.00100	0.0464	0	112	80	120			
Dibromochloromethane	0.0478	0.00100	0.0464	0	103	80	120			
Dibromomethane	0.0488	0.00100	0.0464	0	105	80	120			
Dichlorodifluoromethane	0.0450	0.00100	0.0464	0	97.1	80	120			
Ethylbenzene	0.0470	0.00100	0.0464	0	101	80	120			
Iodomethane	0.0486	0.0150	0.0464	0	105	80	120			
Isopropylbenzene	0.0468	0.00100	0.0464	0	101	80	120			
m,p-Xylene	0.0987	0.00200	0.0928	0	106	80	120			
Methyl tert-butyl ether	0.0530	0.00100	0.0464	0	114	80	120			
Methylene chloride	0.0490	0.00250	0.0464	0	106	80	120			
n-Butylbenzene	0.0520	0.00100	0.0464	0	112	80	120			
n-Propylbenzene	0.0468	0.00100	0.0464	0	101	80	120			
o-Xylene	0.0462	0.00100	0.0464	0	99.7	80	120			
p-Isopropyltoluene	0.0508	0.00100	0.0464	0	110	80	120			
sec-Butylbenzene	0.0482	0.00100	0.0464	0	104	80	120			
Styrene	0.0505	0.00100	0.0464	0	109	80	120			
tert-Butylbenzene	0.0493	0.00100	0.0464	0	106	80	120			
Tetrachloroethene	0.0482	0.00200	0.0464	0	104	80	120			
Toluene	0.0488	0.00200	0.0464	0	105	80	120			
trans-1,2-Dichloroethene	0.0502	0.00100	0.0464	0	108	80	120			
trans-1,3-Dichloropropene	0.0537	0.00100	0.0464	0	116	80	120			
Trichloroethene	0.0460	0.00200	0.0464	0	99.0	80	120			
Trichlorofluoromethane	0.0455	0.00100	0.0464	0	98.1	80	120			
Vinyl chloride	0.0449	0.00100	0.0464	0	96.7	80	120			
Surr: 1,2-Dichloroethane-d4	184		200.0		92.2	70	120			
Surr: 4-Bromofluorobenzene	184		200.0		92.0	75	120			
Surr: Dibromofluoromethane	188		200.0		93.8	85	115			
Surr: Toluene-d8	182		200.0		91.2	85	120			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: IC_120905A

The QC data in batch 53681 applies to the following samples: 1209014-01F, 1209014-04F, 1209014-06F

Sample ID: LCS-53681	Batch ID: 53681	TestNo: E300	Units: mg/L							
SampType: LCS	Run ID: IC_120905A	Analysis Date: 9/5/2012 10:52:00 AM	Prep Date: 9/5/2012							
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual										
Chloride	9.45	1.00	10.00	0	94.5	90	110			
Sulfate	29.3	3.00	30.00	0	97.5	90	110			
Sample ID: LCSD-53681	Batch ID: 53681	TestNo: E300	Units: mg/L							
SampType: LCSD	Run ID: IC_120905A	Analysis Date: 9/5/2012 11:03:36 AM	Prep Date: 9/5/2012							
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual										
Chloride	9.39	1.00	10.00	0	93.9	90	110	0.599	20	
Sulfate	29.3	3.00	30.00	0	97.7	90	110	0.226	20	
Sample ID: MB-53681	Batch ID: 53681	TestNo: E300	Units: mg/L							
SampType: MBLK	Run ID: IC_120905A	Analysis Date: 9/5/2012 11:15:13 AM	Prep Date: 9/5/2012							
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual										
Chloride	<0.300	1.00								
Sulfate	<1.00	3.00								
Sample ID: 1209014-01F DUP	Batch ID: 53681	TestNo: E300	Units: mg/L							
SampType: DUP	Run ID: IC_120905A	Analysis Date: 9/5/2012 12:29:17 PM	Prep Date: 9/5/2012							
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual										
Chloride	1470	100	0	1475				0.513	10	
Sulfate	5370	300	0	5411				0.709	10	
Sample ID: 1209014-01F MS	Batch ID: 53681	TestNo: E300	Units: mg/L							
SampType: MS	Run ID: IC_120905A	Analysis Date: 9/5/2012 12:40:54 PM	Prep Date: 9/5/2012							
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual										
Chloride	1790	100	1000	885.3	90.8	90	110			
Sulfate	6210	300	3000	3247	98.6	90	110			
Sample ID: 1209014-01F MSD	Batch ID: 53681	TestNo: E300	Units: mg/L							
SampType: MSD	Run ID: IC_120905A	Analysis Date: 9/5/2012 12:52:30 PM	Prep Date: 9/5/2012							
Analyte Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual										
Chloride	1800	100	1000	885.3	91.1	90	110	0.160	20	
Sulfate	6240	300	3000	3247	99.7	90	110	0.501	20	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: IC_120905A

Sample ID: ICV-120905	Batch ID: R62371	TestNo:	E300	Units:	mg/L					
SampType: ICV	Run ID: IC_120905A	Analysis Date: 9/5/2012 9:23:09 AM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	24.3	1.00	25.00	0	97.4	90	110			
Sulfate	75.9	3.00	75.00	0	101	90	110			

Sample ID: CCV1-120905	Batch ID: R62371	TestNo:	E300	Units:	mg/L					
SampType: CCV	Run ID: IC_120905A	Analysis Date: 9/5/2012 1:29:27 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.49	1.00	10.00	0	94.9	90	110			
Sulfate	29.9	3.00	30.00	0	99.7	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_120905A

The QC data in batch 53682 applies to the following samples: 1209014-01F, 1209014-04F, 1209014-06F

Sample ID: 1209014-01F DUP	Batch ID: 53682	TestNo: M4500-H+ B	Units: pH Units							
SampType: DUP	Run ID: TITRATOR_120905A	Analysis Date: 9/5/2012 11:29:00 AM	Prep Date: 9/5/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	8.03	0	0	8.090				0.744	5	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_120905A

Sample ID: ICV-120905	Batch ID: R62367	TestNo:	M4500-H+ B	Units:	pH Units					
SampType: ICV	Run ID: TITRATOR_120905A	Analysis Date:	9/5/2012 11:24:00 AM	Prep Date:	9/5/2012					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	9.99	0	10.00	0	99.9	99	101			
Sample ID: CCV-120905	Batch ID: R62367	TestNo:	M4500-H+ B	Units:	pH Units					
SampType: CCV	Run ID: TITRATOR_120905A	Analysis Date:	9/5/2012 11:36:00 AM	Prep Date:	9/5/2012					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.03	0	7.000	0	100	97.1	102.9			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_120905B

The QC data in batch 53685 applies to the following samples: 1209014-01F, 1209014-04F, 1209014-06F

Sample ID: LCS-53685	Batch ID: 53685	TestNo: M2320 B	Units: mg/L							
SampType: LCS	Run ID: TITRATOR_120905B	Analysis Date: 9/5/2012 12:00:00 PM	Prep Date: 9/5/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	51.9	20.0	50.00	0	104	74	129			
Sample ID: MB-53685	Batch ID: 53685	TestNo: M2320 B	Units: mg/L							
SampType: MBLK	Run ID: TITRATOR_120905B	Analysis Date: 9/5/2012 12:02:00 PM	Prep Date: 9/5/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	<10.0	20.0								
Alkalinity, Carbonate (As CaCO3)	<10.0	20.0								
Alkalinity, Hydroxide (As CaCO3)	<10.0	20.0								
Alkalinity, Total (As CaCO3)	<10.0	20.0								
Sample ID: 1209014-01F DUP	Batch ID: 53685	TestNo: M2320 B	Units: mg/L							
SampType: DUP	Run ID: TITRATOR_120905B	Analysis Date: 9/5/2012 12:09:00 PM	Prep Date: 9/5/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	51.2	20.0	0	51.52				0.623	20	
Alkalinity, Carbonate (As CaCO3)	<10.0	20.0	0	0				0	20	
Alkalinity, Hydroxide (As CaCO3)	<10.0	20.0	0	0				0	20	
Alkalinity, Total (As CaCO3)	51.2	20.0	0	51.52				0.623	20	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_120905B

Sample ID: ICV-120905	Batch ID: R62372	TestNo:	M2320 B	Units:	mg/L					
SampType: ICV	Run ID: TITRATOR_120905B	Analysis Date: 9/5/2012 11:56:00 AM		Prep Date:	9/5/2012					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	13.8	20.0	0							
Alkalinity, Carbonate (As CaCO3)	84.6	20.0	0							
Alkalinity, Hydroxide (As CaCO3)	<10.0	20.0	0							
Alkalinity, Total (As CaCO3)	98.4	20.0	100.0	0	98.4	98	102			

Sample ID: CCV-120905	Batch ID: R62372	TestNo:	M2320 B	Units:	mg/L					
SampType: CCV	Run ID: TITRATOR_120905B	Analysis Date: 9/5/2012 12:24:00 PM		Prep Date:	9/5/2012					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	16.0	20.0	0							
Alkalinity, Carbonate (As CaCO3)	85.3	20.0	0							
Alkalinity, Hydroxide (As CaCO3)	<10.0	20.0	0							
Alkalinity, Total (As CaCO3)	101	20.0	100.0	0	101	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: TOC_120919A

The QC data in batch 53818 applies to the following samples: 1209014-01C, 1209014-04C, 1209014-06C

Sample ID: LCS-53818	Batch ID: 53818	TestNo: M5310C	Units: mg/L							
SampType: LCS	Run ID: TOC_120919A	Analysis Date: 9/19/2012 10:37:00 AM	Prep Date: 9/19/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	9.19	1.00	10.00	0	91.9	80	120			
Sample ID: MB-53818	Batch ID: 53818	TestNo: M5310C	Units: mg/L							
SampType: MBLK	Run ID: TOC_120919A	Analysis Date: 9/19/2012 10:56:00 AM	Prep Date: 9/19/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	<0.300	1.00								
Sample ID: 1209022-03B MS	Batch ID: 53818	TestNo: M5310C	Units: mg/L							
SampType: MS	Run ID: TOC_120919A	Analysis Date: 9/19/2012 2:59:00 PM	Prep Date: 9/19/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	20.1	2.00	20.00	1.558	92.6	80	120			
Sample ID: 1209022-03B MSD	Batch ID: 53818	TestNo: M5310C	Units: mg/L							
SampType: MSD	Run ID: TOC_120919A	Analysis Date: 9/19/2012 3:25:00 PM	Prep Date: 9/19/2012							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	20.3	2.00	20.00	1.558	93.6	80	120	0.987	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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CLIENT: Zia Engineering & Environmental
Work Order: 1209014
Project: HELSTF Construction Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: TOC_120919A

Sample ID: ICV-120919	Batch ID: R62622	TestNo:	M5310C	Units:	mg/L					
SampType: ICV	Run ID: TOC_120919A	Analysis Date: 9/19/2012 10:16:00 AM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	14.7	1.00	15.00	0	98.1	90	110			
Sample ID: CCV-120919	Batch ID: R62622	TestNo:	M5310C	Units:	mg/L					
SampType: CCV	Run ID: TOC_120919A	Analysis Date: 9/19/2012 2:11:00 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	10.0	1.00	10.00	0	100	80	120			
Sample ID: CCV-120919	Batch ID: R62622	TestNo:	M5310C	Units:	mg/L					
SampType: CCV	Run ID: TOC_120919A	Analysis Date: 9/19/2012 3:46:00 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	9.94	1.00	10.00	0	99.4	80	120			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

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Lab Order: 1209014
Client: Zia Engineering & Environmental
Project: HELSTF Construction Landfill

Sequence Report

Run ID: CETAC_HG_120914B

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-120914	----	SW7470A	R62562	1	9/14/2012 1:30:42 PM		A
ICB-120914	----	SW7470A	R62562	1	9/14/2012 1:32:46 PM		A
MB-53816	----	SW7470A	53816	1	9/14/2012 1:38:51 PM	9/13/2012 8:52:58 AM	A
LCS-53816	----	SW7470A	53816	1	9/14/2012 1:44:58 PM	9/13/2012 8:52:58 AM	A
LCSD-53816	----	SW7470A	53816	1	9/14/2012 1:47:00 PM	9/13/2012 8:52:58 AM	A
CCV1-120914	----	SW7470A	R62562	1	9/14/2012 1:55:13 PM		A
CCB1-120914	----	SW7470A	R62562	1	9/14/2012 1:57:18 PM		A
1209014-01D	HLSF-3839-HMW-032-0912	SW7470A	53816	1	9/14/2012 2:07:31 PM	9/13/2012 8:52:58 AM	A
1209014-01D SD	HLSF-3839-HMW-032-0912	SW7470A	53816	5	9/14/2012 2:09:34 PM	9/13/2012 8:52:58 AM	A
1209014-01D PDS	HLSF-3839-HMW-032-0912	SW7470A	53816	1	9/14/2012 2:11:36 PM	9/13/2012 8:52:58 AM	A
1209014-01D MS	HLSF-3839-HMW-032-0912MS	SW7470A	53816	1	9/14/2012 2:13:40 PM	9/13/2012 8:52:58 AM	A
1209014-01D MSD	HLSF-3839-HMW-032-	SW7470A	53816	1	9/14/2012 2:15:43 PM	9/13/2012 8:52:58 AM	A
1209014-01E	HLSF-3839-HMW-032-0912	SW7470A	53816	1	9/14/2012 2:17:47 PM	9/13/2012 8:52:58 AM	A
CCV2-120914	----	SW7470A	R62562	1	9/14/2012 2:19:51 PM		A
CCB2-120914	----	SW7470A	R62562	1	9/14/2012 2:21:56 PM		A
1209014-01E MS	HLSF-3839-HMW-032-0912MS	SW7470A	53816	1	9/14/2012 2:23:58 PM	9/13/2012 8:52:58 AM	A
1209014-01E MSD	HLSF-3839-HMW-032-	SW7470A	53816	1	9/14/2012 2:26:05 PM	9/13/2012 8:52:58 AM	A
1209014-04D	HLSF-3839-RB-001-0912	SW7470A	53816	1	9/14/2012 2:28:09 PM	9/13/2012 8:52:58 AM	E
1209014-04E	HLSF-3839-RB-001-0912	SW7470A	53816	1	9/14/2012 2:30:13 PM	9/13/2012 8:52:58 AM	E
1209014-06D	HLSF-3839-HMW-059-0912	SW7470A	53816	1	9/14/2012 2:32:17 PM	9/13/2012 8:52:58 AM	A
1209014-06E	HLSF-3839-HMW-059-0912	SW7470A	53816	1	9/14/2012 2:34:20 PM	9/13/2012 8:52:58 AM	A
CCV3-120914	----	SW7470A	R62562	1	9/14/2012 2:40:35 PM		A
CCB3-120914	----	SW7470A	R62562	1	9/14/2012 2:42:40 PM		A

Run ID: GC15_120909A

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-120909	----	M8015D	R62452	1	9/9/2012 7:19:02 PM		A
LCS-53724	----	M8015D	53724	1	9/9/2012 7:31:12 PM	9/7/2012 8:43:30 AM	A
MB-53724	----	M8015D	53724	1	9/9/2012 8:07:08 PM	9/7/2012 8:43:30 AM	A
1209014-01H	HLSF-3839-HMW-032-0912	M8015D	53724	1	9/9/2012 8:16:06 PM	9/7/2012 8:43:30 AM	A
1209014-04H	HLSF-3839-RB-001-0912	M8015D	53724	1	9/9/2012 8:25:05 PM	9/7/2012 8:43:30 AM	E
1209014-06H	HLSF-3839-HMW-059-0912	M8015D	53724	1	9/9/2012 8:34:03 PM	9/7/2012 8:43:30 AM	A
CCV1-120909	----	M8015D	R62452	1	9/9/2012 9:18:52 PM		A
CCV2-120909	----	M8015D	R62452	1	9/9/2012 11:15:31 PM		A
1209014-01HMS	HLSF-3839-HMW-032-0912MS	M8015D	53724	1	9/9/2012 11:42:24 PM	9/7/2012 8:43:30 AM	A
1209014-01HMSD	HLSF-3839-HMW-032-	M8015D	53724	1	9/9/2012 11:51:21 PM	9/7/2012 8:43:30 AM	A
CCV3-120909	----	M8015D	R62452	1	9/10/2012 12:00:22 AM		A

Lab Order: 1209014
Client: Zia Engineering & Environmental
Project: HELSTF Construction Landfill

Sequence Report**Run ID: GC4_120905A**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-120905	-----	M8015V	R62382	1	9/5/2012 12:28:24 PM		A
LCS-53683	-----	M8015V	53683	1	9/5/2012 12:54:08 PM	9/5/2012 11:59:59 AM	A
MB-53683	-----	M8015V	53683	1	9/5/2012 1:44:28 PM	9/5/2012 11:59:59 AM	A
1209014-01B	HLSF-3839-HMW-032-0912	M8015V	53683	1	9/5/2012 3:50:12 PM	9/5/2012 11:59:59 AM	A
1209014-04B	HLSF-3839-RB-001-0912	M8015V	53683	1	9/5/2012 4:15:51 PM	9/5/2012 11:59:59 AM	E
1209014-06B	HLSF-3839-HMW-059-0912	M8015V	53683	1	9/5/2012 4:41:16 PM	9/5/2012 11:59:59 AM	A
1209014-01BMS	HLSF-3839-HMW-032-0912MS	M8015V	53683	1	9/5/2012 5:06:14 PM	9/5/2012 11:59:59 AM	A
1209014-01BMSD	HLSF-3839-HMW-032-	M8015V	53683	1	9/5/2012 5:31:01 PM	9/5/2012 11:59:59 AM	A
CCV1-120905	-----	M8015V	R62382	1	9/5/2012 5:57:15 PM		A

Run ID: GCMS5_120910A

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-120910	-----	SW8260C	R62468	1	9/10/2012 10:07:00 AM		A
LCS-53759	-----	SW8260C	53759	1	9/10/2012 10:35:00 AM	9/10/2012 10:15:06 AM	A
MB-53759	-----	SW8260C	53759	1	9/10/2012 11:01:00 AM	9/10/2012 10:15:06 AM	A
1209014-01A	HLSF-3839-HMW-032-0912	SW8260C	53759	1	9/10/2012 11:27:00 AM	9/10/2012 10:15:06 AM	A
1209014-02A	HLSF-3839-HMW-032-0912-TB	SW8260C	53759	1	9/10/2012 11:51:00 AM	9/10/2012 10:15:06 AM	T
1209014-03A	HLSF-3839-FB-001-0912	SW8260C	53759	1	9/10/2012 12:17:00 PM	9/10/2012 10:15:06 AM	F
1209014-04A	HLSF-3839-RB-001-0912	SW8260C	53759	1	9/10/2012 12:41:00 PM	9/10/2012 10:15:06 AM	E
1209014-05A	HLSF-3839-RB-001-0912-TB	SW8260C	53759	1	9/10/2012 1:05:00 PM	9/10/2012 10:15:06 AM	T
1209014-06A	HLSF-3839-HMW-059-0912	SW8260C	53759	1	9/10/2012 1:31:00 PM	9/10/2012 10:15:06 AM	A
1209014-01AMMS	HLSF-3839-HMW-032-0912MS	SW8260C	53759	1	9/10/2012 1:56:00 PM	9/10/2012 10:15:06 AM	A
1209014-01AMSD	HLSF-3839-HMW-032-	SW8260C	53759	1	9/10/2012 2:21:00 PM	9/10/2012 10:15:06 AM	A

Run ID: GCMS9_120910A

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
DFTPP-120910	-----	SW8270D	R62487	1	9/10/2012 1:59:00 PM		A
ICV-120910	-----	SW8270D	R62487	1	9/10/2012 2:40:00 PM		A
LCS-53747	-----	SW8270D	53747	1	9/10/2012 4:13:00 PM	9/10/2012 8:53:49 AM	A
1209014-01GMS	HLSF-3839-HMW-032-0912MS	SW8270D	53747	1	9/10/2012 5:22:00 PM	9/10/2012 8:53:49 AM	A
1209014-01GMSD	HLSF-3839-HMW-032-	SW8270D	53747	1	9/10/2012 5:45:00 PM	9/10/2012 8:53:49 AM	A
MB-53747	-----	SW8270D	53747	1	9/10/2012 7:40:00 PM	9/10/2012 8:53:49 AM	A
1209014-01G	HLSF-3839-HMW-032-0912	SW8270D	53747	1	9/10/2012 8:03:00 PM	9/10/2012 8:53:49 AM	A
1209014-04G	HLSF-3839-RB-001-0912	SW8270D	53747	1	9/10/2012 8:27:00 PM	9/10/2012 8:53:49 AM	E
1209014-06G	HLSF-3839-HMW-059-0912	SW8270D	53747	1	9/10/2012 8:50:00 PM	9/10/2012 8:53:49 AM	A

Lab Order: 1209014
Client: Zia Engineering & Environmental
Project: HELSTF Construction Landfill

Sequence Report**Run ID: GCMS9_120910B**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
DFTPP-120910	-----	SW8270D	R62488	1	9/10/2012 1:59:00 PM		A
ICV-120910 APP9	-----	SW8270D	R62488	1	9/10/2012 2:18:00 PM		A
LCS-53747	-----	SW8270D	53747	1	9/10/2012 3:50:00 PM	9/10/2012 8:53:49 AM	A
1209014-01GMS	HLSF-3839-HMW-032-0912MS	SW8270D	53747	1	9/10/2012 4:36:00 PM	9/10/2012 8:53:49 AM	A
1209014-01GMSD	HLSF-3839-HMW-032-	SW8270D	53747	1	9/10/2012 4:59:00 PM	9/10/2012 8:53:49 AM	A
MB-53747	-----	SW8270D	53747	1	9/10/2012 7:18:00 PM	9/10/2012 8:53:49 AM	A
1209014-01G	HLSF-3839-HMW-032-0912	SW8270D	53747	1	9/10/2012 9:13:00 PM	9/10/2012 8:53:49 AM	A
1209014-04G	HLSF-3839-RB-001-0912	SW8270D	53747	1	9/10/2012 9:36:00 PM	9/10/2012 8:53:49 AM	E
1209014-06G	HLSF-3839-HMW-059-0912	SW8270D	53747	1	9/10/2012 9:58:00 PM	9/10/2012 8:53:49 AM	A

Run ID: IC_120905A

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-120905	-----	E300	R62371	1	9/5/2012 9:23:09 AM		A
LCS-53681	-----	E300	53681	1	9/5/2012 10:52:00 AM	9/5/2012 10:37:12 AM	A
LCSD-53681	-----	E300	53681	1	9/5/2012 11:03:36 AM	9/5/2012 10:37:12 AM	A
MB-53681	-----	E300	53681	1	9/5/2012 11:15:13 AM	9/5/2012 10:37:12 AM	A
1209014-04F	HLSF-3839-RB-001-0912	E300	53681	1	9/5/2012 11:39:05 AM	9/5/2012 10:37:12 AM	E
1209014-01F	HLSF-3839-HMW-032-0912	E300	53681	100	9/5/2012 12:17:41 PM	9/5/2012 10:37:12 AM	A
1209014-01F DUP	HLSF-3839-HMW-032-0912PD9	E300	53681	100	9/5/2012 12:29:17 PM	9/5/2012 10:37:12 AM	A
1209014-01F MS	HLSF-3839-HMW-032-0912MS	E300	53681	100	9/5/2012 12:40:54 PM	9/5/2012 10:37:12 AM	A
1209014-01F MSD	HLSF-3839-HMW-032-	E300	53681	100	9/5/2012 12:52:30 PM	9/5/2012 10:37:12 AM	A
1209014-06F	HLSF-3839-HMW-059-0912	E300	53681	100	9/5/2012 1:04:07 PM	9/5/2012 10:37:12 AM	A
CCV1-120905	-----	E300	R62371	1	9/5/2012 1:29:27 PM		A

Lab Order: 1209014
Client: Zia Engineering & Environmental
Project: HELSTF Construction Landfill

Sequence Report

Run ID: ICP-MS2_120913C

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
BLANK STD 1	-----	SW6020	R62552	1	9/13/2012 11:43:00 AM		A
1 & 20ppb std 2	-----	SW6020	R62552	1	9/13/2012 11:49:00 AM		A
10 & 200ppb std 3	-----	SW6020	R62552	1	9/13/2012 11:55:00 AM		A
250 & 5000ppb std 4	-----	SW6020	R62552	1	9/13/2012 12:01:00 PM		A
500 & 10000ppb std	-----	SW6020	R62552	1	9/13/2012 12:07:00 PM		A
2000 ppb std 6	-----	SW6020	R62552	1	9/13/2012 12:12:00 PM		A
ICSA-120913	-----	SW6020	R62552	1	9/13/2012 12:30:00 PM		A
ICSAB-120913	-----	SW6020	R62552	1	9/13/2012 12:36:00 PM		A
ICV1-120913	-----	SW6020	R62552	1	9/13/2012 1:02:00 PM		A
ICB1-120913	-----	SW6020	R62552	1	9/13/2012 1:30:00 PM		A
MB-53793	-----	SW6020	53793	1	9/13/2012 1:36:00 PM	9/12/2012 8:54:19 AM	A
1209014-06D	HLSF-3839-HMW-059-0912	SW6020	53793	1	9/13/2012 1:42:00 PM	9/12/2012 8:54:19 AM	A
1209014-04D	HLSF-3839-RB-001-0912	SW6020	53793	1	9/13/2012 2:20:00 PM	9/12/2012 8:54:19 AM	E
LCS-53793	-----	SW6020	53793	1	9/13/2012 2:30:00 PM	9/12/2012 8:54:19 AM	A
LCSD-53793	-----	SW6020	53793	1	9/13/2012 2:36:00 PM	9/12/2012 8:54:19 AM	A
1209014-01D	HLSF-3839-HMW-032-0912	SW6020	53793	100	9/13/2012 2:48:00 PM	9/12/2012 8:54:19 AM	A
1209014-01D SD	HLSF-3839-HMW-032-0912	SW6020	53793	500	9/13/2012 2:54:00 PM	9/12/2012 8:54:19 AM	A
1209014-06D	HLSF-3839-HMW-059-0912	SW6020	53793	100	9/13/2012 3:00:00 PM	9/12/2012 8:54:19 AM	A
1209014-01D PDS	HLSF-3839-HMW-032-0912	SW6020	53793	100	9/13/2012 3:41:00 PM	9/12/2012 8:54:19 AM	A
1209014-01D MS	HLSF-3839-HMW-032-0912MS	SW6020	53793	100	9/13/2012 3:47:00 PM	9/12/2012 8:54:19 AM	A
1209014-01D MSD	HLSF-3839-HMW-032-	SW6020	53793	100	9/13/2012 3:53:00 PM	9/12/2012 8:54:19 AM	A
CCV1-120913	-----	SW6020	R62552	1	9/13/2012 4:05:00 PM		A
	-----	SW6020	R62552	1	9/13/2012 4:24:00 PM		A
CCB1-120913	-----	SW6020	R62552	1	9/13/2012 5:01:00 PM		A
CCV3-120913	-----	SW6020	R62552	1	9/13/2012 8:41:00 PM		A
CCB3-120913	-----	SW6020	R62552	1	9/13/2012 9:29:00 PM		A
MB-53814	-----	SW6020	53814	1	9/13/2012 9:35:00 PM	9/13/2012 8:49:56 AM	A
1209014-04E	HLSF-3839-RB-001-0912	SW6020	53814	1	9/13/2012 9:41:00 PM	9/13/2012 8:49:56 AM	E
LCS-53814	-----	SW6020	53814	1	9/13/2012 9:47:00 PM	9/13/2012 8:49:56 AM	A
LCSD-53814	-----	SW6020	53814	1	9/13/2012 9:53:00 PM	9/13/2012 8:49:56 AM	A
1209014-01E	HLSF-3839-HMW-032-0912	SW6020	53814	1	9/13/2012 10:04:00 PM	9/13/2012 8:49:56 AM	A
1209014-01E SD	HLSF-3839-HMW-032-0912	SW6020	53814	5	9/13/2012 10:10:00 PM	9/13/2012 8:49:56 AM	A
1209014-06E	HLSF-3839-HMW-059-0912	SW6020	53814	1	9/13/2012 10:16:00 PM	9/13/2012 8:49:56 AM	A
1209014-01E PDS	HLSF-3839-HMW-032-0912	SW6020	53814	1	9/13/2012 10:22:00 PM	9/13/2012 8:49:56 AM	A
1209014-01E MS	HLSF-3839-HMW-032-0912MS	SW6020	53814	1	9/13/2012 10:28:00 PM	9/13/2012 8:49:56 AM	A
1209014-01E MSD	HLSF-3839-HMW-032-	SW6020	53814	1	9/13/2012 10:34:00 PM	9/13/2012 8:49:56 AM	A
CCV4-120913	-----	SW6020	R62552	1	9/13/2012 10:57:00 PM		A
CCB4-120913	-----	SW6020	R62552	1	9/13/2012 11:33:00 PM		A

Lab Order: 1209014
Client: Zia Engineering & Environmental
Project: HELSTF Construction Landfill

Sequence Report

ICSA2-120913	-----	SW6020	R62552	1	9/13/2012 11:39:00 PM		A
ICSAB2-120913	-----	SW6020	R62552	1	9/13/2012 11:45:00 PM		A

Run ID: ICP-MS3_120914A

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
BLANK STD 1	-----	SW6020	R62568	1	9/14/2012 10:52:00 AM		A
1/20 ppb STD.	-----	SW6020	R62568	1	9/14/2012 10:57:00 AM		A
10/200 ppb STD.	-----	SW6020	R62568	1	9/14/2012 11:03:00 AM		A
250/5000 ppb STD.	-----	SW6020	R62568	1	9/14/2012 11:09:00 AM		A
500/10000 ppb STD.	-----	SW6020	R62568	1	9/14/2012 11:14:00 AM		A
2000/25000 ppb ST	-----	SW6020	R62568	1	9/14/2012 11:20:00 AM		A
ICSA-120914	-----	SW6020	R62568	1	9/14/2012 11:36:00 AM		A
ICSAB-120914	-----	SW6020	R62568	1	9/14/2012 11:42:00 AM		A
ICV1-120914	-----	SW6020	R62568	1	9/14/2012 12:15:00 PM		A
LCVL-120914	-----	SW6020A	R62568	1	9/14/2012 12:26:00 PM		A
ICB1-120914	-----	SW6020	R62568	1	9/14/2012 12:34:00 PM		A
MB-53814	-----	SW6020	53814	1	9/14/2012 12:42:00 PM	9/13/2012 8:49:56 AM	A
1209014-04D	HLSF-3839-RB-001-0912	SW6020	53793	1	9/14/2012 12:49:00 PM	9/12/2012 8:54:19 AM	E
1209014-04E	HLSF-3839-RB-001-0912	SW6020	53814	1	9/14/2012 12:55:00 PM	9/13/2012 8:49:56 AM	E
LCS-53814	-----	SW6020	53814	1	9/14/2012 1:00:00 PM	9/13/2012 8:49:56 AM	A
LCSD-53814	-----	SW6020	53814	1	9/14/2012 1:06:00 PM	9/13/2012 8:49:56 AM	A
1209014-01E	HLSF-3839-HMW-032-0912	SW6020	53814	100	9/14/2012 1:17:00 PM	9/13/2012 8:49:56 AM	A
1209014-01E SD	HLSF-3839-HMW-032-0912	SW6020	53814	500	9/14/2012 1:23:00 PM	9/13/2012 8:49:56 AM	A
1209014-06E	HLSF-3839-HMW-059-0912	SW6020	53814	100	9/14/2012 1:29:00 PM	9/13/2012 8:49:56 AM	A
1209014-01E PDS	HLSF-3839-HMW-032-0912	SW6020	53814	100	9/14/2012 1:34:00 PM	9/13/2012 8:49:56 AM	A
1209014-01E MS	HLSF-3839-HMW-032-0912MS	SW6020	53814	100	9/14/2012 1:40:00 PM	9/13/2012 8:49:56 AM	A
1209014-01E MSD	HLSF-3839-HMW-032-	SW6020	53814	100	9/14/2012 1:46:00 PM	9/13/2012 8:49:56 AM	A
CCV1-120914	-----	SW6020	R62568	1	9/14/2012 1:51:00 PM		A
CCB1-120914	-----	SW6020	R62568	1	9/14/2012 2:21:00 PM		A
1209014-01D	HLSF-3839-HMW-032-0912	SW6020	53793	1	9/14/2012 2:27:00 PM	9/12/2012 8:54:19 AM	A
1209014-01D SD	HLSF-3839-HMW-032-0912	SW6020	53793	5	9/14/2012 2:33:00 PM	9/12/2012 8:54:19 AM	A
1209014-01D PDS	HLSF-3839-HMW-032-0912	SW6020	53793	1	9/14/2012 3:01:00 PM	9/12/2012 8:54:19 AM	A
1209014-01D MS	HLSF-3839-HMW-032-0912MS	SW6020	53793	1	9/14/2012 3:06:00 PM	9/12/2012 8:54:19 AM	A
1209014-01D MSD	HLSF-3839-HMW-032-	SW6020	53793	1	9/14/2012 3:19:00 PM	9/12/2012 8:54:19 AM	A
CCV2-120914	-----	SW6020	R62568	1	9/14/2012 3:31:00 PM		A
CCB2-120914	-----	SW6020	R62568	1	9/14/2012 4:01:00 PM		A
1209014-01E	HLSF-3839-HMW-032-0912	SW6020	53814	1	9/14/2012 5:44:00 PM	9/13/2012 8:49:56 AM	A
CCV3-120914	-----	SW6020	R62568	1	9/14/2012 6:01:00 PM		A
CCB3-120914	-----	SW6020	R62568	1	9/14/2012 6:35:00 PM		A

Lab Order: 1209014
Client: Zia Engineering & Environmental
Project: HELSTF Construction Landfill

Sequence Report

Run ID: TITRATOR_120905A

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV2-120905	----	M4500-H+ B	R62367	1	9/5/2012 11:21:00 AM	9/5/2012 11:21:00 AM	A
ICV1-120905	----	M4500-H+ B	R62367	1	9/5/2012 11:23:00 AM	9/5/2012 11:23:00 AM	A
ICV-120905	----	M4500-H+ B	R62367	1	9/5/2012 11:24:00 AM	9/5/2012 11:24:00 AM	A
1209014-01F	HLSF-3839-HMW-032-0912	M4500-H+ B	53682	1	9/5/2012 11:27:00 AM	9/5/2012 11:15:00 AM	A
1209014-01F DUP	HLSF-3839-HMW-032-0912PD9	M4500-H+ B	53682	1	9/5/2012 11:29:00 AM	9/5/2012 11:15:00 AM	A
1209014-04F	HLSF-3839-RB-001-0912	M4500-H+ B	53682	1	9/5/2012 11:32:00 AM	9/5/2012 11:15:00 AM	E
1209014-06F	HLSF-3839-HMW-059-0912	M4500-H+ B	53682	1	9/5/2012 11:35:00 AM	9/5/2012 11:15:00 AM	A
CCV-120905	----	M4500-H+ B	R62367	1	9/5/2012 11:36:00 AM	9/5/2012 11:36:00 AM	A

Run ID: TITRATOR_120905B

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-120905	----	M2320 B	R62372	1	9/5/2012 11:56:00 AM	9/5/2012 11:56:00 AM	A
LCS-53685	----	M2320 B	53685	1	9/5/2012 12:00:00 PM	9/5/2012 11:30:00 AM	A
MB-53685	----	M2320 B	53685	1	9/5/2012 12:02:00 PM	9/5/2012 11:30:00 AM	A
1209014-01F	HLSF-3839-HMW-032-0912	M2320 B	53685	1	9/5/2012 12:06:00 PM	9/5/2012 11:30:00 AM	A
1209014-01F DUP	HLSF-3839-HMW-032-0912PD9	M2320 B	53685	1	9/5/2012 12:09:00 PM	9/5/2012 11:30:00 AM	A
1209014-04F	HLSF-3839-RB-001-0912	M2320 B	53685	1	9/5/2012 12:11:00 PM	9/5/2012 11:30:00 AM	E
1209014-06F	HLSF-3839-HMW-059-0912	M2320 B	53685	1	9/5/2012 12:18:00 PM	9/5/2012 11:30:00 AM	A
CCV-120905	----	M2320 B	R62372	1	9/5/2012 12:24:00 PM	9/5/2012 12:24:00 PM	A

Run ID: TOC_120919A

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-120919	----	M5310C	R62622	1	9/19/2012 10:16:00 AM		A
LCS-53818	----	M5310C	53818	1	9/19/2012 10:37:00 AM	9/19/2012 9:58:32 AM	A
MB-53818	----	M5310C	53818	1	9/19/2012 10:56:00 AM	9/19/2012 9:58:32 AM	A
1209014-04C	HLSF-3839-RB-001-0912	M5310C	53818	2	9/19/2012 11:14:00 AM	9/19/2012 9:58:32 AM	E
1209014-06C	HLSF-3839-HMW-059-0912	M5310C	53818	2	9/19/2012 11:34:00 AM	9/19/2012 9:58:32 AM	A
CCV-120919	----	M5310C	R62622	1	9/19/2012 2:11:00 PM		A
1209014-01C	HLSF-3839-HMW-032-0912	M5310C	53818	2	9/19/2012 2:32:00 PM	9/19/2012 9:58:32 AM	A
1209022-03B MS	-----	M5310C	53818	2	9/19/2012 2:59:00 PM	9/19/2012 9:58:32 AM	A
1209022-03B MSD	-----	M5310C	53818	2	9/19/2012 3:25:00 PM	9/19/2012 9:58:32 AM	A
CCV-120919	-----	M5310C	R62622	1	9/19/2012 3:46:00 PM		A

Manual Integrations Tracking Form - DoD QSM 4.1 Requirement

Instrument ID: GCMS#9

Data Folder: GCMS9_120910A

<u>Sample ID</u>	<u>Analyte #1</u>	<u>Analyte #2</u>	<u>Analyte #3</u>	<u>Analyte #4</u>
	Identification & Reason	Identification & Reason	Identification & Reason	Identification & Reason
ICV-120910	MI for bis(2-chloroethyl)ether because peak was not properly integrated.			
Sample: LCS-53747	MI for benzoic acid because peak was not properly integrated.			
Sample: 1209014-01GMS	MI for benzoic acid because peak was not properly integrated.			
Sample: 1209014-01GMSD	MI for benzoic acid because peak was not properly integrated.			

*Manually Integrated = MI

Analyst

9/17/2012

Date

2nd Level Review

9/17/2012

Date

MIGCMS9data

Manual Integrations Tracking Form - DoD QSM 4.1 Requirement

Instrument ID: GCMS#9

Data Folder: GCMS9_120910B

<u>Sample ID</u>	<u>Analyte #1</u> Identification & Reason	<u>Analyte #2</u> Identification & Reason	<u>Analyte #3</u> Identification & Reason	<u>Analyte #4</u> Identification & Reason
ICV-120910	N/A			
Sample: LCS-53747	MI for dimethylphenethylamine because peak was not properly integrated.			
Sample: 1209014-01GMS	MI for dimethylphenethylamine because peak was not properly integrated.			
Sample: 1209014-01GMSD	MI for dimethylphenethylamine because peak was not properly integrated.			

*Manually Integrated = MI

9/17/2012

Analyst

Date

2nd Level Review

9/17/2012

Date

MIGCMS9data

Manual Integrations Tracking Form - DoD QSM 4.2 Requirement

Instrument ID: GCMS#9ICAL Folder: GCMS#9 SV120416B.CAL

<u>Sample ID</u> <u>ICAL POINT</u>	<u>Analyte #1</u> Identification & Reason	<u>Analyte #2</u> Identification & Reason	<u>Analyte #3</u> Identification & Reason	<u>Analyte #4</u> Identification & Reason
CAL 1 0.04 PPM	MI for 2,6-dinitrotoluene because wrong peak was integrated.	MI for 2,4-dinitrotoluene because wrong peak was integrated.	MI for 1,4-dichlorobenzene because wrong peak was integrated.	
CAL 2 0.2 PPM	MI for benzoic acid because peak was partially integrated.			
CAL 3 0.5 PPM	N/A			
CAL 4 1.0 PPM	MI for benzoic acid because peak was partially integrated.			
CAL 5 2.0 PPM	MI for benzoic acid because peak was partially integrated.			
CAL 6 3.0 PPM	MI for benzoic acid because peak was partially integrated.			
CAL 7 4.0 PPB	MI for benzoic acid because peak was partially integrated.			
CAL 8 5.0 PPB	MI for benzoic acid because peak was partially integrated.			
SSCV 2000 PPB	MI for benzoic acid because peak was partially integrated.			

*Manually Integrated = MI

DO
Analyst8/14/12
DateSgt. Weller
2nd Level Review8/14/12
Date